HITACHI

SM007

42PD7500(PW2)
42PD7500A(PW2)

SERVICE MANUAL
MANUEL D'ENTRETIEN
WARTUNGSHANDBUCH

CAUTION:
Before servicing this chassis, it is important that the service technician read the "Safety Precautions" and "Product Safety Notices" in this service manual.

ATTENTION:
Avant d'effectuer l'entretien du châassis, le technicien doit lire les «Précautions de sécurité» et les «Notices de sécurité du produit» présentés dans le présent manuel.

VORSICHT:
Vor Öffnen des Gehäuses hat der Service-Ingenieur die „Sicherheitshinweise" und „Hinweise zur Produktsicherheit" in diesem Wartungshandbuch zu lesen.

Data contained within this Service manual is subject to alteration for improvement.

Les données fournies dans le présent manuel d'entretien peuvent faire l'objet de modifications en vue de perfectionner le produit.

Die in diesem Wartungshandbuch enthaltenen Spezifikationen können sich zwecks Verbesserungen ändern.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

Plasma Television

June 2005

CAUTION FOR SAFETY

Please read this page before repair the monitor.
This page explains to following items for keep the safety of set and prevent to accident during repair work.

● **We explain by symbol at happen the damage or injury when took wrong repair.**

⚠ **Warning**	This symbol means **"possible to die or heavy damage"**
⚠ **Caution**	This symbol means **"possible to damage or something will break"**

● **We made the symbol as below, which are kind of following items.**

⚠	This symbol means **"CAUTION"**
⚠	This symbol means **"POSSIBLE to ELECTRIC SHOCK"**

❗	This symbol means **"MUST"**
⃠	This symbol means **"DO NOT"**

⚠ WARNING

■ **Should be follows to instructions.**

⚠

We indicates to cabinet, chassis and parts by label, which are special attention part.
Please follow to note and [Safety Instructions] of User's Manual.

■ **Prevent the electric shock.**

⚠

Please take care during working because monitor has high voltage part and power supply part.
Possible to die if you touch to these place by miss take.
Please disconnect power plug during overhaul, reassemble or change parts.
You will die or take damage by electric shock if you touch to live part.

■ **Use recommended components.**

❗

Please use to same characteristic component, which is same as previous for your safety and keep reliability especially marked by ⚠ in parts list and circuit diagram.
It is reason of electric shock or fire if you use non-recommended component.

■ **Should be kept same style of wiring or component.**

❗

Monitor uses tubes or tapes, which made by insulator, and some components are keep distance from surface of PWB for safety.
Internal leads kept from hot part or high voltage part by clamper or styling, so please return to original condition for prevent to electric shock or fire.

■ **Should be done safety check after finished.**

❗

Every part (removed screws, component and wiring) should be returned to previous condition.
Check around repair position for make damage by miss take and measure the insulated impedance by meg-ohm meter.
Confirm the value of impedance, that value is more than 4M ohm.
It is reason for electric shock or fire if that value is less than 4M ohm.

■ **Nobody can check and repair to the code and combination circuit of HDCP.**

⃠

Never remove the shield case, which is assembled to the code and combination circuit of HDCP.

PRECAUTIONS

How to clean the plasma screen panel of the monitor
Before cleaning the monitor, turn off the monitor and disconnect the power plug from the power outlet.
To prevent scratching or damaging the plasma screen face, do not knock or rub the surface with sharp or hard objects. Clean the screen with a soft cloth moistened with warm water and dry with a soft cloth. If it is not enough, then use a cloth with mild detergent. Do not use harsh or abrasive cleaners.

How to clean the cabinet of the monitor
Use a soft cloth to clean the cabinet and control panel of the monitor. When excessively soiled dilute a neutral detergent in water, wet and wring out the soft cloth and afterward wipe with a dry soft cloth.
Never use acid/alkaline detergent, alcoholic detergent, abrasive cleaner, powder soap, OA cleaner, car wax, glass cleaner, etc. especially because they would cause discoloration, scratches or cracks.

Information for users applicable in European Union countries

This symbol on the product or on its packaging means that your electrical and electronic equipment should be disposed at the end of life separately from your household wastes. There are separate collection systems for recycling in EU. For more information, please contact the local authority or the dealer where you purchased the product.

1. Features

Large-screen, high-definition plasma display panel
The 42-inch color plasma display panel, with a resolution of 1024 (H) x 1024 (V) pixels, creates a high-definition, large-screen(aspect ratio : 16:9) and low-profile flat display. Free from electromagnetic interferences from geomagnetic sources and ambient power lines, the panel produces high-quality display images free from color misconvergence and display distortion.

High Performance Digital Processor
A wide range of input signals can be handed,including composite, component,and HDMI.High Definition Digital Processor creates the fine-textured image with dynamic contrast. In addition, it corresponds to a broad array of personal computer signals, from 640 x 400 and 640 x 480 VGA to 1600 x 1200 UXGA.(Analog Input)

Easy-to-use remote control and on screen display system
The remote control included eases the work of setting display controls. Further, the on-screen display system, displays the status of signal reception and display control settings in an easy-to-view fashion.

Connecting to an Audio Visual Device
• Two Scart terminals[*1], composite/S terminal[*2], a component terminal[*3], and a HDMI terminal have been added.
A composite video output terminal is also provided as a monitoring output.
[*1] AV1 scart applies to composite/ S-video
AV2 applies to composite/ RGB
[*2] A composite/S terminal = Side Input
[*3] With AV3 input, if a composite terminal and a component terminal are used at the same time, the component terminal would govern.
• A wide range of devices can be also connected besides personal computers.

Power Swivel Feature
It allows turning the plasma display left or right within ±30 degree using the remote control.

Digital Terrestrial Television Broadcasting
Converting into digital signal enables to provide more channels and various useful features, such as Electric Programme Guide, Digital Teletext, and so on. Further, digital signal can create high quality picture.

This logo indicates that the product is compliant with European Digital Broadcasting.
DVB is a registered trademark of the DVB Project.

This logo indicates that the product is set up to view digital terrestrial TV.
FREEVIEW and the FREEVIEW logo are trade marks of DVT Services Ltd and are used under license. FREEVIEW Logo © DTV Services Ltd 2002.

This logo indicates that the product will work after implementation of full digital switchover.
The Digital logo is a Certification Mark.

2. Specifications

Panel	Display dimensions	Approx. 42 inches (922 (H) x 522 (V) mm, diagonal 1059mm)
	Resolution	1024(H) x 1024 (V) pixels
Net dimensions (excluding Speakers/Stand)		1050 (W) x 676 (H) x 128 (D) mm
Net weight (excluding Speakers/Stand)		38.0kg
Ambient conditions	Temperature	Operating : 5˚C to 35˚C, Storage : 0˚C to 40˚C
	Relative humidity	Operating : 20% to 80%, Storage : 20% to 90% (non-condensing)
Power supply		AC220 - 240V, 50Hz
Power consumption/at standby		380W / <3W
Audio output		speaker 12W + 12W (6Ω),
(RGB input)		
Input terminals		RGB1 DVI input terminal (DVI-D) RGB1 audio input terminal (3.5mm Stereo Mini Jack) RGB2 analogue RGB input terminal (D-sub 15-pin) RGB2 audio input terminal (3.5mm Stereo Mini Jack)
Input signals		0.7 V/1.0 Vp-p, analogue RGB (Recommended Signal) 480i, 576i, 480p, 576p, 1080i/50, 1080i/60, 720p/50*1, 720p/60
Sync signals		H/V separate, TTL level [2KΩ] H/V composite, TTL level [2KΩ] Sync on green, 0.3 Vp-p [75Ω]
Recommended signal		44 modes
(Video input)		
Input terminals		AV1: composite video /S video / L/R audio input terminal (SCART) AV2: composite video /RGB / L/R audio input terminal (SCART) AV3: composite video / Y/P_B /P_R video / L/R audio input terminal (RCA) AV4: composite video /S video / L/R audio input terminal (RCA) AV5: HDMI input terminal
Input signals		AV1: PAL, SECAM, NTSC3.58, NTSC4.43 AV2: PAL, SECAM, NTSC3.58, NTSC4.43, RGB AV3: PAL, SECAM, NTSC3.58, NTSC4.43 AV3: 480i, 576i, 480p, 576p, 720p/50, 720p/60, 1080i/50, 1080i/60, AV4: PAL, SECAM, NTSC3.58, NTSC4.43 AV5: HDMI input signal
Output Signal		OUTPUT (MONITOR): composite video monitor-output terminal (RCA) OUTPUT (MONITOR): L/R audio monitor- output terminal (RCA) OUTPUT (HEADPHONE): L/R audio monitor- output terminal (Mini-pin) AV1: composite video / L/R audio monitor /DTT/TV output terminal (SCART)
Recommended signal		24 modes
(RF input)		
Input terminals		ANT : 75Ω Unbalanced
RF Video System		PAL B, G, H / I / D, K SECAM B, G / K1 / L, L' / (D, K)*2 DVB-T

• The monitor takes at least 30 minutes to attain the status of optimal picture quality.
*1 720p/50 does not support RGB2.
*2 The SECAM D, K system might not be normally received, depending on the model.

Applicable video signals for each input terminal

Applicable video signals for input terminal

Terminal	RCA/S-video/SCART				HDMI	DVI		D-sub	
Signal	CVBS	S-video	Component	SCART (RGB)		PC	STB	RGB	Component
AV1	○	○							
AV2	○			○					
AV3	○		○						
AV4	○	○							
AV5					○				
RGB1						○	○		
RGB2								○	○

3. Service points

● Lead free solder

This product uses lead free solder (unleaded) to help preserve the environment. Please read these instructions before attempting any soldering work.

Caution: Always wear safety glasses to prevent fumes or molten solder from getting into the eyes. Lead free solder can splatter at high temperatures (600˚C).

■ Lead free solder indicator

Printed circuit boards using lead free solder are engraved with an "F."

■ Properties of lead free solder

The melting point of lead free solder is 40-50˚C higher than leaded solder.

■ Servicing solder

Solder with an alloy composition of Sn-3.0Ag-0.5Cu or Sn-0.7Cu is recommended.
Although servicing with leaded solder is possible, there are a few precautions that have to be taken. (Not taking these precautions may cause the solder to not harden properly, and lead to consequent malfunctions.)

Precautions when using leaded solder

- Remove all lead free solder from soldered joints when replacing components.
- If leaded solder should be added to existing lead free joints, mix in the leaded solder thoroughly after the lead free solder has been completely melted (do not apply the soldering iron without solder).

■ Servicing soldering iron

A soldering iron with a temperature setting capability (temperature control function) is recommended.
The melting point of lead free solder is higher than leaded solder. Use a soldering iron that maintains a high stable temperature (large heat capacity), and that allows temperature adjustment according to the part being serviced, to avoid poor servicing performance.

Recommended soldering iron:

- Soldering iron with temperature control function (temperature range: 320-450˚C)

Recommended temperature range per part:

Part	Soldering iron temperature
Mounting (chips) on mounted PCB	320˚C±30˚C
Mounting (chips) on empty PCB	380˚C±30˚C
Chassis, metallic shield, etc.	420˚C±30˚C

The PWB assembly which has used lead free solder

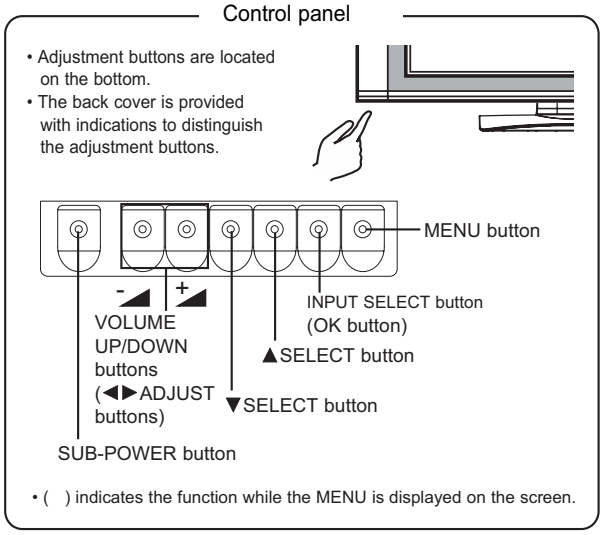
FILTER PWB, SW PWB, LED/RECEIVER PWB, SP TERMINAL(L/R) PWB
AUDIO PWB, JOINT PWB, Swievel PWB, HDMI PWB, control PWB
VIDEO PWB, I/F A PWB, I/F B PWB, DTT PWB
TUNER PWB

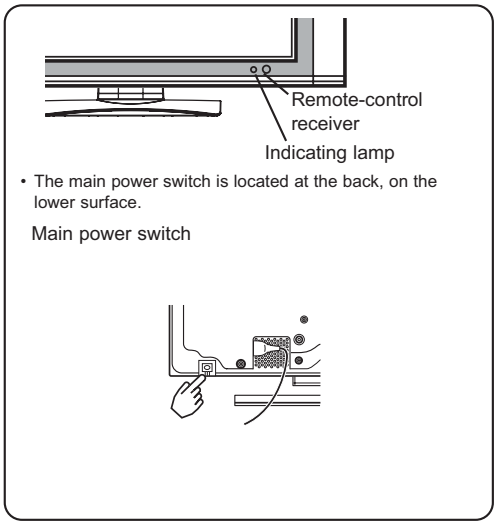
■ Readjustment Power supply voltage

When a PANEL or a Power Unit is exchanged, power supply voltage needs to be adjusted. Please adjust to make the values of Va and Vs of as should on the label currently stuck on the panel back upper parts.Adjustment is performed by VR in the power supply unit. Please refer to the procedures of “Va” and “Vs” adjustments on 22page.

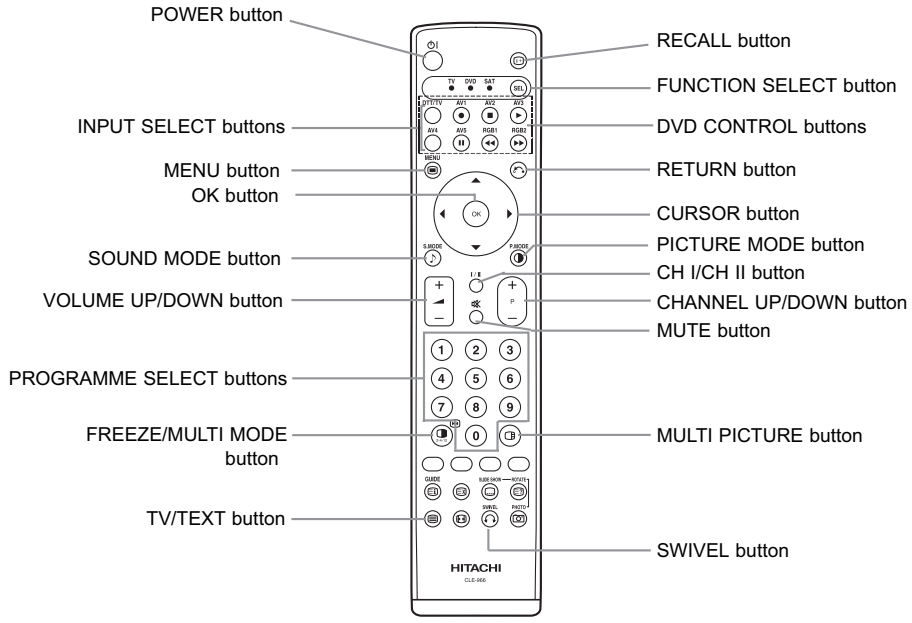
4. Component names

[Main unit]





[Remote control]



CLE-966

5. New adoption technology

[System control micom I001(M30627)]

- **Pin function table**

No.	PIN MANE	I/O	FUNCTION
1	VREF (+5.0V)	I	5V
2	+5.0V	I	5V
3	NC	I/O	NC
4	OSD_DATA	I/O	OSD DATA
5	OSD_CLK	I/O	OSD CLK
6	HP_VOL	I/O	Head Phone Volume
7	FE.AGC_O(M)	I/O	AGC Voltage(F/E)
8	DATA_OUT(FC)	I/O	FC DATA
9	DATA_IN(FC)	I/O	FC DATA
10	CLK(FC)	I/O	FC CLOCK
11	EDID_PROTECT	I/O	Memory Protect
12	TRAP_MAIN	I/O	TRAP-MAIN
13	GND	I	GND
14	CNVSS(FLASH)	I	CNVSS(FLASH)
15	DSUB COMP	I/O	SYNC-SW
16	RGBSW	I/O	SYNC-SW
17	RESET	I	RESET
18	16MHz oscillation	O	OSC-OUT
19	GND	I	GND
20	16MHz oscillation	I	OSC-IN
21	+5.0V	I	5V
22	NMI(+5.0V)	I	5V PULL UP
23	RMCON(AVC)	I/O	IR Signal
24	V.FREQ_2(VIDEO)	I/O	TA1370(LA7213), COMPONENT2
25	V.FREQ_1/3	I/O	TA1370(LA7213), COMPONENT(Main)/ DSUB COMPONENT
26	SCV.SYNC	I/O	CVBS for SYNC Detection(Sub Picture)
27	IRQ（PM-IRQ)	I/O	PANEL MODULE Condition(L:Normal,H:Erroe)
28	MCV.SYNC	I/O	CVBS for SYNC Detection(Main Picture)
29	POWER_LED	I/O	L：LED ON(Power Save)
30	H.FREQ_2(VIDEO)	I/O	TA1370(LA7213), COMPONENT2
31	PDP_WVGA_LCD_SW_2	I/O	PDP/42WVGA/LCD detection
32	H.FREQ_1/_3	I/O	TA1370(LA7213), COMPONENT1(Main), D-SUB
33	PDWN	I/O	RESERVE(LVDS Power Down mode(PANEL))
34	RXD2	I/O	NC
35	TXD2	I/O	NC
36	TXD1(RS232C/FLASH)	I/O	DATA(RS-232C)
37		I	5V
38	RXD1(RS232C/FLASH)	I/O	DATA(RS-232C)
39		I	GND
40	SCLK(FLASH)	I/O	CLOCK(FRASH MEMORY Writing)
41	BUSY(FLASH)	I/O	BUSY(FRASH MEMORY Writing)
42	TXD0(PDP)	I/O	DTT
43	RXD0(PDP)	I/O	DTT
44	SDA4(panel)	I/O	I^2C-BUS Contorol DATA
45	SCL4(panel)	I/O	I^2C-BUS Contorol CLOCK
46	M_ENABLE	I/O	Media Enable
47	M_SCLK	I/O	Media Clock
48	M_SDA	I/O	Media Data
49	M_WAKEUP	I/O	Media Wakeup
50	PDPGO(PM_ON)	I/O	PDP PALEL Contorol

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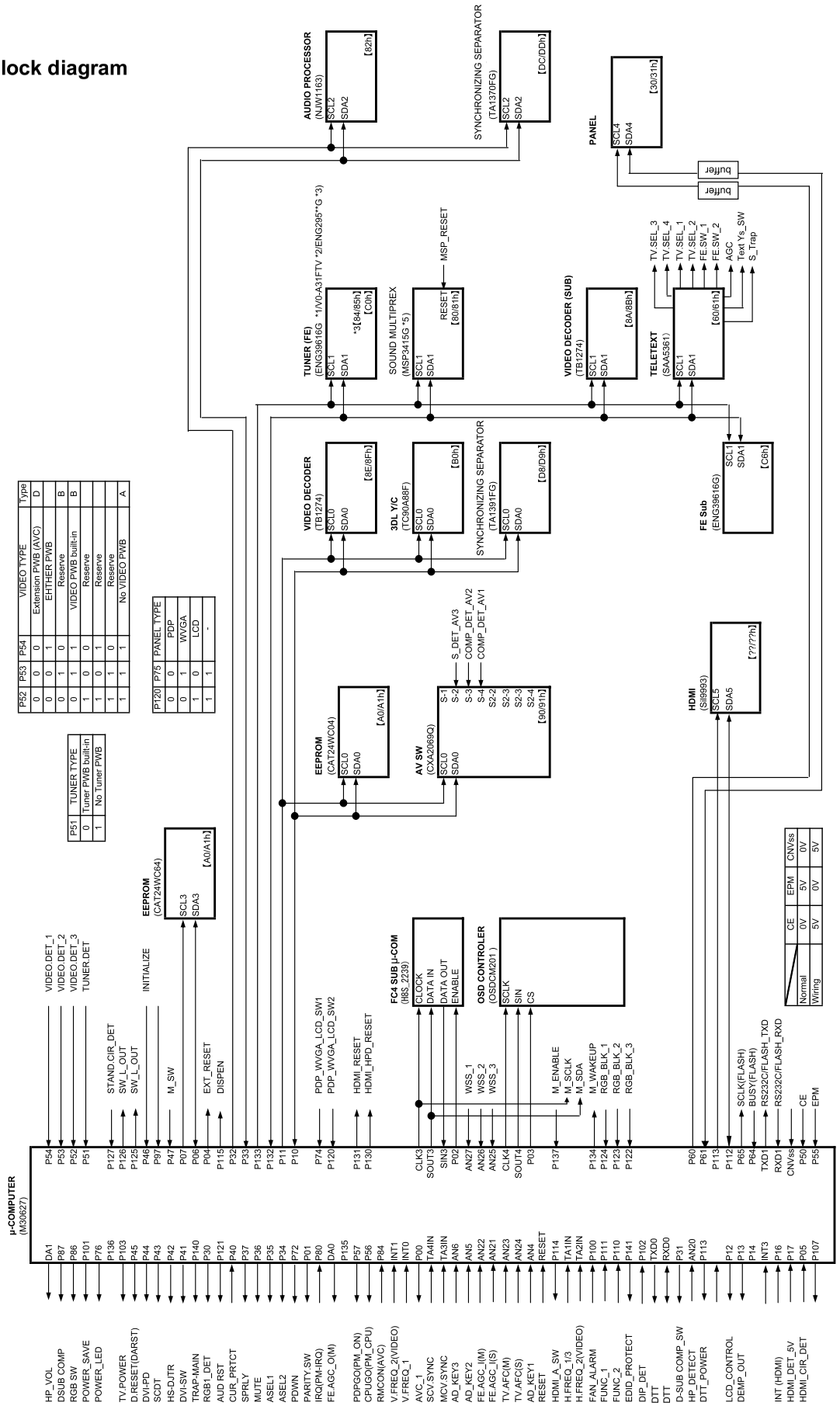
No.	PIN MANE	I/O	FUNCTION
51	CPUGO(PM_CPU)	I/O	PDP PALEL Contorol
52	EPM (FLASH)	I/O	FRASH MEMORY Writing
53	VIDEO.DET_1	I/O	Detecting VIDEO PWB
54	SCL1	I/O	I2C（to PWB TUNER side） FE/MSP3455or MSP3415G/SAA5361/TB1274(Sub)/M306V7/M62320P
55	SDA1	I/O	I2C（to PWB TUNER side） FE/MSP3455or MSP3415G/SAA5361/TB1274(Sub)/M306V7/M62320P
56	HDMI-RESET	I/O	HDMI-Reset
57	HDMI-HPD_RESET	I/O	Hot Plug Detect Reset
58	VIDEO.DET_2	I/O	Detecting VIDEO PWB
59	VIDEO.DET_3	I/O	Detecting VIDEO PWB
60	TUNER.DET_1	I/O	Detecting TUNER PWB
61	CE (FLASH)	I/O	FRASH MEMORY Writing
62	STAND.CIR_DET	I/O	Detecting SWIVEL PWB
63	SW_L_OUT	I/O	SWIVEL(L-output)
64	SW_R_OUT	I/O	SWIVEL(R-output)
65	M_SW	I/O	Discriminate terminal of bridge media circuit connecting.
66	INITIALIZE	I/O	Initializing EEPROM
67	D.RESET(DARST)	I/O	RESET(DVI)
68	DVI-PD	I/O	DVI Contorol
69	SCDT	I/O	DVI Contorol
70	HS-DJTR	I/O	DVI Contorol
71	DVI-SW	I/O	DVI Contorol
72	CUR_PRTCT	I/O	Detecting Powre-SWIVEL
73	SPRLY	I/O	SP ON/OFF Relay Control
74	MUTE	I/O	MUTE
75	ASEL1	I/O	AUDIO Signal SW
76	ASEL2	I/O	AUDIO Signal SW
77	SDA2	I/O	I2C(NJW1163,AD7414,TA1370)
78	SCL2	I/O	I2C(NJW1163,AD7414,TA1370)
79	D-SUB COMP_SYNC.SW	I/O	SYNC-SW
80	BM_SW	I/O	BM switch
81	RGB_BLK_2	I/O	NC
82	RGB_BLK_3	I/O	NC
83	AUD RST	I/O	RESET for LIPSYNC IC
84	PDP_WVGA_LCD_SW_1	I/O	PDP/42WVGA/LCD detection
85	+5.0V	I	
86	RGB1_DET	I/O	NC
87	GND	I	GND
88	WSS_1	I/O	NC
89	WSS_2	I/O	NC
90	WSS_3	I/O	NC
91	TV.AFC(S)	I/O	AFC Voltage(Sub TUNER)
92	TV.AFC(M)	I/O	AFC Voltage(Main TUNER)
93	FE_AGC_I(M)	I/O	AGC Voltage(Main TUNER)
94	FE_AGC_I(S)	I/O	AFC Voltage(Sub TUNER)
95	HP_DETECT	I/O	HEAD PHONE DETECT
96	HDMI_DET	I/O	HDMI 5V DET
97	INT_HDMI	I/O	INT(HDMI)
98	NC	I/O	NC
99	COMP_SW	I/O	Component SW Main ⇔ DSUB
100	DEMP_OUT	I/O	deemphasis control output for HDMI

No.	PIN MANE	I/O	FUNCTION
101	CONTROL	I/O	LCD PANEL
102	SCL0	I/O	I^2C-BUS Contorol CLOCK
103	SDA0	I/O	I^2C-BUS Contorol DATA
104	SCL3(EEPROM)	I/O	I2C-BUS Contorol CLOCK
105	SDA3(EEPROM)	I/O	I2C-BUS Contorol DATA
106	HDMI_CIR_DET	I/O	Detecting HDMI circuit connection
107	EXT_RESET	I/O	EXTERNAL RESET
108	OSD_CS	I/O	OSD CS
109	FC_ENABLE	I/O	FC ENABLE
110	NC	I/O	NC
111	NC	I/O	NC
112	IRQ_DTT	I/O	DTT IRQ
113	DTT_POWER	I/O	DTT POWER
114	DISPEN	I/O	DISPEN
115	HDMI_A_SW	I/O	HDMI AUDIO SW
116	SCL5	I/O	I^2C-BUS Contorol CLOCK
117	SDA5	I/O	I^2C-BUS Contorol DATA
118	FUNC_1	I/O	Function 1
119	FUNC_2	I/O	Function 2
120	NC	I/O	NC
121	AD_KEY3	I/O	AD KEY3
122	AD_KEY2	I/O	AD KEY2
123	AD_KEY1	I/O	AD KEY1(INPUT)
124	TV.POWER	I/O	POWER ON/OFF(H:ON、L:STANDBY)
125	DIP.DET	I/O	DIP DET
126	POWER_SAVE	I/O	POWER ON/OFF(L：ON(STANDBY·POWER SAVE), H：OFF)
127	GND	I	GND
128	FAN_ALARM	I/O	FAN ALARM

• Block diagram



6. Adjustment

● How to get to Adjustment mode

Using the front control buttons with the set turned off (standby) can activate it.

Press the SUB-POWER(⏻) button, INPUT SELECT(⏎) button and ▼ button at the same time, and hold for more than 5 seconds.

The set turns on in adjustment mode with OSD.

● Changing data and Selecting Adjustment code

When the set is in adjustment mode, the cursor ◄ , ► , ▲ , ▼ and OK buttons of the remote control or front panel may be used as the adjustment keys.

▲ , ▼ buttons are used for selecting adjustment code.

◄ , ► buttons are used for changing data values.

OK button is used for confirming the data.

After finishing the necessary adjustment press MENU button. Adjustment mode is released and the set returns to normal condition.

● Memory Initialize operation

NOTE: The execution of this function returns the adjustment codes to the preset values, therefore, adjustment data will be lost.

Procedure

(1) Enter Adjustment Mode.

(2) Select MEMORY INIT adjustment code (No.658) and change the data value from 0 to 1.

(3) Activate MEMORY INIT by pressing OK button for more than 3 seconds.

(4) Select No.525 and change data value from 1 to 0.

(5) Check that the receiving channel goes to P1. Unit is set to preset values.

● Service adjustment items by I^2C-bus control (MAIN Part)

O : shoule be adjusted
Δ should be followed previous data

ADJ No	Function		Max. value	Default	Changed Component			
	ADJ. Items	Mode			FORMATTER PWB	VIDEO PWB	TUNER PWB	PDP PANEL
0	SUB_CONTRAST (RF)	Main	15	8				
1	SUB_CONTRAST (AV1)	Main/Sub Composite mode	15	8				
2	SUB_CONTRAST (AV2)	Main/Sub Composite mode	15	8				
3	SUB_CONTRAST (AV3)	Main/Sub Composite mode	15	8				
4	SUB_CONTRAST (AV4)	Main/Sub Composite mode	15	8				
5	SUB_CONTRAST (AV5)	Main/Sub Composite mode	15	8				
6	SUB_CONTRAST (RF)	Sub	15	8				
7	Sub Color	Main	15	8				
8	Sub Color	Sub	15	8				
9	TINT (RF)	Main	63	33				
10	TINT (VIDEO)	Main	63	33				
11	TINT (RF)	Sub	63	33				
12	TINT (VIDEO)	Sub	63	33				
13	Free							
14	Free							
15	Free							
16	Free							
17	Reference Amplitude(RGB_AMP)	RF/VIDEO	254	127				
18	Reference Amplitude(RGB_AMP)	PC	254	127				
19	Reference Amplitude(RGB_AMP)	Multi Picture mode	254	130				
20	Display for Max. Amplitude Level	Main	-	-				
21	Display for Max. Amplitude Level	Sub	-	-				
22	Offset Value(+/-) of Upper Limit (for FC :RGB-AMP)	Multi Picture mode	18	2				
23	Offset Value(+/-) of Upper Limit (for TB1274:SUB-CONT)	Single Picture mode	18	2				
24	Offset Value(+/-) of Upper Limit (for TB1274:Sub Color)		18	2				
25	Terget value of White peak Adj.	Single Picture mode	237	235				
26	Terget value of Color Level Adj. (for TB1274:Sub Color)		237	235				
27	Set Blue Gamma gain On/Off 0:Off, 1:On (For 55V)	For 55V	1	1				
28	Contrast mode<Dynamic> SW (TV) 0:Dynamic, 1:Dynamic+Auto	RF	1	1				
29	Select for WIDE Mode		1	1				
30	PinP Function (for PC) 0:PinP, 1:Infomation1, 2:Infomaiton Split		2	0				
31	Black Level(RGB_AMP)	RF/VIDEO	254	127				
32	Black Level(RGB_AMP)	PC	254	127				
33	Black Level(RGB_AMP)	HDMI	254	127				
34	Black Level(RGB_AMP)	For USA NTSC/480i	254	127				
35	YNR Input Level for AV1-5 Mode	RF	7	7				
36	YNR Input Level for AV1-5 Mode	VIDEO	7	7				
37	YNR Input Level for AV1-5 Mode	Scart-RGB(50/60Hz)	7	7				
38	YNR Input Level for AV1-5 Mode	480i/576i	7	7				
39	YNR Input Level for AV1-5 Mode	480p/576p	7	7				
40	YNR Input Level for AV1-5 Mode	1080i-50/60/720p	7	7				
41	YNR Input Level for DVI-STV Mode	480i/480p/576i/576p/VGA	7	7				
42	YNR Input Level for DVI-STV Mode	1080i-50/60/720p	7	7				
43	CNR Input Level at Low level for AV1-5 Mode	RF/VIDEO	7	4				
44	CNR Input Level at Low level for AV1-5 Mode	Scart-RGB(50/60Hz)	7	4				
45	CNR Input Level at Low level for AV1-5 Mode	480i/576i	7	4				
46	CNR Input Level at Low level for AV1-5 Mode	480p/576p	7	4				
47	CNR Input Level at Low level for AV1-5 Mode	1080i-50/60/720p	7	4				
48	CNR Input Level at Low level for DVI-STV Mode	480i/480p/576i/576p/VGA	7	2				
49	CNR Input Level at Low level for DVI-STV Mode	1080i-50/60/720p	7	2				
50	CNR Input Level at Low level for Dsub Comp. Mode	480i/576i	7	2				
51	CNR Input Level at Low level for Dsub Comp. Mode	480p/576p	7	2				
52	CNR Input Level at Low level for Dsub Comp. Mode	1080i-50/60/720p	7	2				
53	main/sub YFRNR level [MYNRP0]	NTSC/PAL/ Multi picture	7	1				
54	main/sub YFRNR level [MYNRP5]	NTSC/PAL-VIDEO	7	0				
55	main/sub YFRNR level [MYNRP6']	Scart-RGB(50/60Hz)	7	0				
56	main/sub YFRNR level [MYNRP6]	480i/576i(Except HDMI)	7	0				
57	main/sub YFRNR level [MYNRP7]	480p/576p(Except HDMI)	7	0				
58	main/sub YFRNR level [MYNRP8]	1080i-50/60/720p(Except HDMI)	7	0				
59	main/sub CFRNR level [MCNRP0]	NTSC/PAL/ Multi	7	0				
60	main/sub CFRNR level [MCNRP5]	NTSC/PAL-VIDEO	7	0				
61	main/sub CFRNR level [MCNRP6']	Scart-RGB(50/60Hz)	7	0				
62	main/sub CFRNR level [MCNRP6]	480i/576i	7	0				
63	main/sub CFRNR level [MCNRP7]	480p/576p	7	0				
64	main/sub CFRNR level [MCNRP8]	1080i-50/60/720p	7	0				
65	B-Y/B?zR-Y/R (VER. Enhancer Gain) [CVEG0]	NTSC/PAL/480i/576i/ Multi picture	15	15				
66	B-Y/B?zR-Y/R (VER. Enhancer Gain) [CVEG1]	480p/576p/1080i-50/60/720p	15	9				
67	DSB Gain of Vertical for B-Y/B?zR-Y/R [CVDSBG0]	NTSC/PAL/480i/576i/ Multi picture	3	0				
68	DSB Gain of Vertical for B-Y/B?zR-Y/R [CVDSBG1]	480p/576p/1080i-50/60/720p	3	0				
69	DSB coring of Vertical for B-Y/B?zR-Y/R [CVDSBC0]	NTSC/PAL/480i/576i/ Multi picture	7	0				
70	DSB coring of Vertical for B-Y/B?zR-Y/R [CVDSBC1]	480p/576p/1080i-50/60/720p	7	0				
71	B-Y/B?zR-Y/R (VRE. Enhancer) CLIP 0:CTI [CVECLP0]	NTSC/PAL/480i/576i/ Multi picture	1	0				
72	B-Y/B?zR-Y/R (VRE. Enhancer) CLIP 0:CTI [CVECLP1]	480p/576p/1080i-50/60/720p	1	0				
73	Horizontal HPF Peek Freq. SW for B-Y/B,R-Y/R [CHHPF0]	NTSC/PAL/480i/576i/ Multi picture	3	2				
74	Horizontal HPF Peek Freq. SW for B-Y/B,R-Y/R [CHHPF1]	480p/576p/1080i-50/60/720p	3	2				
75	Horizontal Enhancer Gain for B-Y/B,R-Y/R [CHEG0]	NTSC/PAL/480i/576i/ Multi picture	15	15				
76	Horizontal Enhancer Gain for B-Y/B,R-Y/R [CHEG1]	480p/576p/1080i-50/60/720p	15	9				
77	Horizontal DSB Gain for B-Y/B,R-Y/R [CHDSBG0]	NTSC/PAL/480i/576i/ Multi picture	3	0				
78	Horizontal DSB Gain for B-Y/B,R-Y/R [CHDSBG1]	480p/576p/1080i-50/60/720p	3	0				
79	Horizontal DSB Coring for B-Y/B,R-Y/R [CHDSBC0]	NTSC/PAL/480i/576i/ Multi picture	7	0				
80	Horizontal DSB Coring for B-Y/B,R-Y/R [CHDSBC1]	480p/576p/1080i-50/60/720p	7	0				
81	Horizontal Enhancer Clip for B-Y/B,R-Y/G 0:CTI [CHECLP0]	NTSC/PAL/480i/576i/ Multi picture	1	0				
82	Horizontal Enhancer Clip for B-Y/B,R-Y/G 0:CTI [CHECLP1]	480p/576p/1080i-50/60/720p	1	0				
83	B-Y Clamp offset	NTSC/PAL/480i/576i/480p/576p	255	128				
84	R-Y Clamp offset	NTSC/PAL/480i/576i/480p/576p	255	128				
85	B-Y Clamp offset	1080i-50/60	255	128				
86	R-Y Clamp offset	1080i-50/60	255	128				
87	B-Y Clamp offset	720p	255	128				
88	R-Y Clamp offset	720p	255	128				
89	B-Y Clamp offset [DVI-STB]	480i/576i/480p/576p/VGA	255	128				
90	R-Y Clamp offset [DVI-STB]	480i/576i/480p/576p/VGA	255	128				
91	B-Y Clamp offset [DVI-STB]	1080i-50/60	255	128				
92	R-Y Clamp offset [DVI-STB]	1080i-50/60	255	128				
93	B-Y Clamp offset [DVI-STB]	720p	255	128				
94	R-Y Clamp offset [DVI-STB]	720p	255	128				
95	P/N ID	Main	1	0				
96	P/N ID	Sub	1	0				
97	Sharpness Gain(RF/NR)	Main/Sub	15	2				
98	Bandwidth 1	DTT	3	2				
99	Bandwidth 2	DTT	3	2				

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O : shoule be adjusted
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ADJ No	Function		Max. value	Default	Changed Component			
	ADJ. Items	Mode			FORMATTER PWB	VIDEO PWB	TUNER PWB	PDP PANEL
100	Sub Contrast 1	DTT	15	0				
101	Sub Contrast 2	DTT	15	0				
102	Sub Color 1	DTT	15	0				
103	Sub Color 2	DTT	15	0				
104	Main H.sync phase adj.	DTT	255	101				
105	Sub H.sync phase adj.	DTT	255	101				
106	Free							
107	Free							
108	Free							
109	Free							
110	Sharpness Gain(RF) BG/DK/I	Sub	15	8				
111	Sharpness Gain(RF) M	Sub	15	8				
112	Sharpness Gain(RF) L	Sub	15	8				
113	Sharpness Gain(RF) L'	Sub	15	8				
114	Sharpness Gain(VIDEO) PAL	Sub	15	8				
115	Sharpness Gain(VIDEO) NTSC3.58	Sub	15	8				
116	Sharpness Gain(VIDEO) SECAM,B/W	Sub	15	8				
117	Sharpness Gain(VIDEO) NTSC4.43	Sub	15	8				
118	Sharpness Gain(VIDEO) N-PAL	Sub	15	8				
119	Sharpness Gain(VIDEO) M-PAL	Sub	15	8				
120	Sharpness Gain(S.VIDEO)	Sub	15	10				
121	Free							
122	Sharpness f0(RF) BG/DK/I	Main/Sub	3	2				
123	Sharpness f0(RF) M	Main/Sub	3	2				
124	Sharpness f0(RF) L	Main/Sub	3	2				
125	Sharpness f0(RF) L'	Main/Sub	3	2				
126	Sharpness f0(VIDEO) PAL	Main/Sub	3	2				
127	Sharpness f0(VIDEO) NTSC3.58	Main/Sub	3	2				
128	Sharpness f0(VIDEO) SECAM,B/W	Main/Sub	3	2				
129	Sharpness f0(VIDEO) NTSC4.43	Main/Sub	3	2				
130	Sharpness f0(VIDEO) N-PAL	Main/Sub	3	2				
131	Sharpness f0(VIDEO) M-PAL	Main/Sub	3	2				
132	Free							
133	Y Out Level M (4.5)	Main	63	15				
134	Y Out Level B/G (5.5)	Main	63	13				
135	Y Out Level D/K (6.5)	Main	63	16				
136	Y Out Level I (6.0)	Main	63	14				
137	Y Out Level L (6.5)	Main	63	13				
138	Y Out Level L' (6.5)	Main	63	16				
139	Y Out Level (VIDEO)	Main	63	15				
140	Y Out Level (TEXT)	Main	63	0				
141	Free							
142	Y Out Level M (4.5)	Sub	63	19				
143	Y Out Level B/G (5.5)	Sub	63	13				
144	Y Out Level D/K (6.5)	Sub	63	12				
145	Y Out Level I (6.0)	Sub	63	13				
146	Y Out Level L (6.5)	Sub	63	12				
147	Y Out Level L' (6.5)	Sub	63	15				
148	Y Out Level (VIDEO)	Sub	63	13				
149	Y Out Level (TEXT)	Sub	63	4				
150	Free							
151	C Out Level M (4.5)	Main	63	7				
152	C Out Level B/G (5.5)	Main	63	7				
153	C Out Level D/K (6.5)	Main	63	7				
154	C Out Level I (6.0)	Main	63	7				
155	C Out Level L (6.5)	Main	63	8				
156	C Out Level L' (6.5)	Main	63	8				
157	C Out Level (VIDEO)	Main	63	15				
158	C Out Level (TEXT)	Main	63	6				
159	Free							
160	C Out Level M (4.5)	Sub	63	3				
161	C Out Level B/G (5.5)	Sub	63	8				
162	C Out Level D/K (6.5)	Sub	63	8				
163	C Out Level I (6.0)	Sub	63	7				
164	C Out Level L (6.5)	Sub	63	7				
165	C Out Level L' (6.5)	Sub	63	7				
166	C Out Level (VIDEO)	Sub	63	10				
167	C Out Level (TEXT)	Sub	63	8				
168	Free							
169	BPF Q (4.43MHz)	Main/Sub	3	3				
170	BPF f0 (4.43MHz)	Main/Sub	3	1				
171	C_TRAP_SW (COMB=OFF-PAL/NTSC4.43/NTSC3.58)	Main/Sub	1	0				
172	LPF	Main/Sub	1	0				
173	SECAM D-Trap	Main/Sub	1	1				
174	FILTER SW(RF)	Main/Sub	1	0				
175	Y_DL (4.5MHz)	Main	10	6				
176	Y_DL (5.5MHz PAL/NTSC4.43)	Main	10	4				
177	Y_DL (5.5MHz SECAM)	Main	10	0				
178	Y_DL (6.0PAL/NTSC4.43)	Main	10	8				
179	Y_DL (6.0SECAM)	Main	10	9				
180	Y_DL (6.5PAL/NTSC4.43)	Main	10	6				
181	Y_DL (6.5SECAM)	Main	10	10				
182	Y_DL (L)	Main	10	5				
183	Y_DL (L')	Main	10	5				
184	Y_DL (VIDEO PAL/NTSC4.43)	Main	10	6				
185	Y_DL (VIDEO SECAM)	Main	10	8				
186	Y_DL (VIDEO NTSC)	Main	10	6				
187	Y_DL (4.5MHz)	Sub	10	5				
188	Y_DL (5.5MHz PAL/NTSC4.43)	Sub	10	2				
189	Y_DL (5.5MHz SECAM)	Sub	10	0				
190	Y_DL (6.0PAL/NTSC4.43)	Sub	10	7				
191	Y_DL (6.0SECAM)	Sub	10	5				
192	Y_DL (6.5PAL/NTSC4.43)	Sub	10	5				
193	Y_DL (6.5SECAM)	Sub	10	5				
194	Y_DL (L)	Sub	10	5				
195	Y_DL (L')	Sub	10	5				
196	Y_DL (VIDEO PAL/NTSC4.43)	Sub	10	5				
197	Y_DL (VIDEO SECAM)	Sub	10	5				
198	Y_DL (VIDEO NTSC)	Sub	10	5				
199	NTSC Comb(Comb off)	Sub	1	1				

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ADJ No	Function		Max. value	Default	Changed Component			
	ADJ. Items	Mode			FORMATTER PWB	VIDEO PWB	TUNER PWB	PDP PANEL
200	Cb offset1	Main	15	8				
201	Free							
202	Cr offset1	Main	15	8				
203	Free							
204	Cb offset1	Sub	15	8				
205	Free							
206	Cr offset1	Sub	15	8				
207	Free							
208	MVM?「VIDEO)	–	1	0				
209	AFC_GAIN (AV00)	–	3	0				
210	AFC_GAIN (AV1)	–	3	0				
211	AFC_GAIN (AV2)	–	3	0				
212	AFC_GAIN (AV3)	–	3	0				
213	AFC_GAIN (AV4)	–	3	0				
214	AFC_GAIN (AV5)		3	0				
215	AFC_GAIN (Except AV00)		3	0				
216	S_B-Y_ADJ	Main	15	8				
217	S_R-Y_ADJ	Main	15	8				
218	S_B-Y_ADJ	Sub	15	8				
219	S_R-Y_ADJ	Sub	15	8				
220	BELL_f0	Main/Sub	1	0				
221	S_INHBT	–	1	0				
222	S_ID	–	1	0				
223	S_GP	–	3	0				
224	S_V_ID	–	1	0				
225	BELL/HPF	–	3	3				
226	HS Phase	Main	1	0				
227	HS Phase	Sub	1	0				
228	Bandwidth 1	NTSC/PAL/480i/576i	3	2				
229	Bandwidth 1	480p/576p	3	2				
230	Bandwidth 1	1080i-50/60/720p	3	0				
231	Bandwidth 2	NTSC/PAL/480i/576i	3	2				
232	Bandwidth 2	480p/576p	3	2				
233	Bandwidth 2	1080i-50/60/720p	3	0				
234	Sub Contrast 1	Except HDMI	15	0				
235	Sub Contrast 1	HDMI	15	0				
236	Sub Contrast 2	Except HDMI	15	0				
237	Sub Contrast 2	HDMI	15	0				
238	Sub Color 1	Except HDMI	15	0				
239	Sub Color 1	HDMI	15	0				
240	Sub Color 2	Except HDMI	15	0				
241	Sub Color 2	HDMI	15	0				
242	HV THRU 1	NTSC/PAL/480i/576i/480p/576p	1	0				
243	HV THRU 1	1080i-50/60/720p	1	0				
244	HV THRU 2	NTSC/PAL/480i/576i/480p/576p	1	0				
245	HV THRU 2	1080i-50/60/720p	1	0				
246	H_SEP 1	RF/VIDEO	1	0				
247	H_SEP 1	480i/576i	1	0				
248	H_SEP 1	480p/576p	1	0				
249	H_SEP 1	1080i_50	1	0				
250	H_SEP 1	1080i_60/720p	1	0				
251	H_SEP 2	RF/VIDEO	1	0				
252	H_SEP 2	480i/576i	1	0				
253	H_SEP 2	480p/576p	1	0				
254	H_SEP 2	1080i_50	1	0				
255	H_SEP 2	1080i_60/720p	1	0				
256	V_SEP 1	RF/VIDEO	1	0				
257	V_SEP 1	480i/576i	1	0				
258	V_SEP 1	480p/576p	1	0				
259	V_SEP 1	1080i_50	1	0				
260	V_SEP 1	1080i_60/720p	1	0				
261	V_SEP 2	RF/VIDEO	1	0				
262	V_SEP 2	480i/576i	1	0				
263	V_SEP 2	480p/576p	1	0				
264	V_SEP 2	1080i_50	1	0				
265	V_SEP 2	1080i_60/720p	1	0				
266	AFC MODE 1	RF	3	0				
267	AFC MODE 1	VIDEO	3	0				
268	AFC MODE 2	RF	3	0				
269	AFC MODE 2	VIDEO	3	0				
270	N_LVL 1	RF	1	0				
271	N_LVL 1	VIDEO	1	0				
272	N_LVL 2	RF	1	0				
273	N_LVL 2	VIDEO	1	0				
274	Free							
275	HD POSITION 1	480i/576i	15	0				
276	HD POSITION 1	480p/576p	15	0				
277	HD POSITION 1	1080i_50	15	0				
278	HD POSITION 1	1080i_60/720p	15	0				
279	Free							
280	HD POSITION 2	480i/576i	15	0				
281	HD POSITION 2	480p/576p	15	0				
282	HD POSITION 2	1080i_50	15	0				
283	HD POSITION 2	1080i_60/720p	15	0				
284	Y LPF 1	RF	1	1				
285	Y LPF 1	VIDEO	1	1				
286	Y LPF 2	RF	1	1				
287	Y LPF 2	VIDEO	1	1				
288	Gain 1		1	1				
289	Gain 2		1	1				
290	YCS MODE	NTSC3.58	3	0				
291	3D DET		7	7				
292	AFC Gain	NTSC3.58	3	0				
293	2D-CNR k		3	0				
294	2D-CNR Lim		3	0				
295	GMCON		1	0				
296	Y-NC		1	0				
297	Y-NC Lim		3	0				
298	2D-YNR k		3	0				
299	2D-YNR Gain		3	0				

O : shoule be adjusted
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ADJ No	Function		Max. value	Default	Changed Component			
	ADJ. Items	Mode			FORMATTER PWB	VIDEO PWB	TUNER PWB	PDP PANEL
300	2D-YNR Lim		3	0				
301	BLK EXP		3	0				
302	CKILL		1	0				
303	Output Clamp		1	0				
304	Input Clamp auto		1	1				
305	Int Clamp Manual		1	0				
306	C-ENHA		1	0				
307	YC-MIX		1	0				
308	Video2 RGB Mode ON		1	0				
309	HSWINV		1	0				
310	Free							
311	V-ENHA Gain	NTSC3.58	3	2				
312	V-ENHA NL	NTSC3.58	3	2				
313	H-ENHA Gain	NTSC3.58	3	1				
314	3DNR Corr for 3DYCS		1	0				
315	Burst ON for 2DYCS????		1	0				
316	MDMPL		1	0				
317	MDMBL		1	0				
318	H-MaskOut		7	0				
319	V-MaskOut		7	0				
320	Input Y-Delay (Main RF mode) for 3DYCS		7	4				
321	Input Y-Delay (Main Video mode) for 3DYCS		7	4				
322	Output-Y-Delay (Main RF Mode) for 3DYCS		15	8				
323	Output-Y-Delay (Main Video Mode) for 3DYCS		15	8				
324	V-ENHA Core	NTSC3.58	3	0				
325	Input Clamp Key	NTSC3.58	1	1				
326	Burst Gate Key	NTSC3.58	1	1				
327	Sync sep LPF	NTSC3.58	1	0				
328	H-WST	NTSC3.58	7	3				
329	HD Amp 1	NTSC3.58	7	6				
330	HD Gain V	NTSC3.58	31	13				
331	HD Amp 2	NTSC3.58	7	1				
332	HD Gain 1	NTSC3.58	31	8				
333	HD Amp 3	NTSC3.58	7	5				
334	HD Gain 2	NTSC3.58	31	4				
335	ACMSLP	NTSC3.58	3	1				
336	ACSSLP	NTSC3.58	3	2				
337	AYMSLP	NTSC3.58	3	2				
338	AYSSLP	NTSC3.58	3	2				
339	ACMESET	NTSC3.58	3	3				
340	ACMFSET	NTSC3.58	3	3				
341	ACSESET	NTSC3.58	3	2				
342	ACSFSET	NTSC3.58	3	2				
343	AYMESET	NTSC3.58	3	3				
344	AYMFSET	NTSC3.58	3	3				
345	AYSESET	NTSC3.58	3	1				
346	AYSFSET	NTSC3.58	3	3				
347	BCMSLP	NTSC3.58	3	3				
348	BCSSLP	NTSC3.58	3	3				
349	BYMSLP	NTSC3.58	3	3				
350	BYSSLP	NTSC3.58	3	2				
351	BCMESET	NTSC3.58	3	2				
352	BCMFSET	NTSC3.58	3	2				
353	BCSESET	NTSC3.58	3	2				
354	BCSFSET	NTSC3.58	3	2				
355	BYMESET	NTSC3.58	3	3				
356	BYMFSET	NTSC3.58	3	3				
357	BYSESET	NTSC3.58	3	3				
358	BYSFSET	NTSC3.58	3	3				
359	BCMUP	NTSC3.58	1	1				
360	CECMP	NTSC3.58	7	4				
361	CSCMP	NTSC3.58	15	0				
362	F1HER	NTSC3.58	3	1				
363	F1VER	NTSC3.58	3	1				
364	MREF	NTSC3.58	15	2				
365	CDEYE	NTSC3.58	3	2				
366	YDEYE	NTSC3.58	3	2				
367	MDS	NTSC3.58	1	0				
368	F-TBC OFF MDMPL	NTSC3.58	1	0				
369	REC:C DEC	Except NTSC3.58	1	0				
370	V-ENHA Gain	Except NTSC3.58	3	2				
371	V-ENHA NL	Except NTSC3.58	3	1				
372	H-ENHA Gain	Except NTSC3.58	3	1				
373	3D-CNR Lim for 2DYCS		7	0				
374	3D-CNR k for 2DYCS		3	0				
375	3D-CNR Gain for 2DYCS		7	0				
376	3D-YNR Lim for 2DYCS		7	0				
377	3D-YNR k for 2DYCS		3	0				
378	3D-YNR Gain for 2DYCS		7	0				
379	YCS MODE	Except NTSC3.58	3	0				
380	AFC Gain	Except NTSC3.58	3	0				
381	Free							
382	Free							
383	V-ENHA Core	Except NTSC3.58	3	0				
384	Input Clamp Key	Except NTSC3.58	1	1				
385	Burst Gate Key	Except NTSC3.58	1	1				
386	Sync sep LPF	Except NTSC3.58	1	0				
387	H-WST	Except NTSC3.58	7	3				
388	HD Amp 1	Except NTSC3.58	7	6				
389	HD Gain V	Except NTSC3.58	31	13				
390	HD Amp 2	Except NTSC3.58	7	1				
391	HD Gain 1	Except NTSC3.58	31	8				
392	HD Amp 3	Except NTSC3.58	7	5				
393	HD Gain 2	Except NTSC3.58	31	4				
394	ACMSLP	Except NTSC3.58	3	2				
395	ACSSLP	Except NTSC3.58	3	2				
396	AYMSLP	Except NTSC3.58	3	0				
397	AYSSLP	Except NTSC3.58	3	0				
398	ACMESET	Except NTSC3.58	3	3				
399	ACMFSET	Except NTSC3.58	3	3				

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ADJ No	Function		Max. value	Default	Changed Component			
	ADJ. Items	Mode			FORMATTER PWB	VIDEO PWB	TUNER PWB	PDP PANEL
400	ACSESET	Except NTSC3.58	3	2				
401	ACSFSET	Except NTSC3.58	3	2				
402	AYMESET	Except NTSC3.58	3	3				
403	AYMFSET	Except NTSC3.58	3	3				
404	AYSESET	Except NTSC3.58	3	1				
405	AYSFSET	Except NTSC3.58	3	3				
406	BCMSLP	Except NTSC3.58	3	3				
407	BCSSLP	Except NTSC3.58	3	3				
408	BYMSLP	Except NTSC3.58	3	3				
409	BYSSLP	Except NTSC3.58	3	2				
410	BCMESET	Except NTSC3.58	3	2				
411	BCMFSET	Except NTSC3.58	3	2				
412	BCSESET	Except NTSC3.58	3	2				
413	BCSFSET	Except NTSC3.58	3	2				
414	BYMESET	Except NTSC3.58	3	3				
415	BYMFSET	Except NTSC3.58	3	3				
416	BYSESET	Except NTSC3.58	3	3				
417	BYSFSET	Except NTSC3.58	3	3				
418	BCMUP	Except NTSC3.58	1	1				
419	CECMP	Except NTSC3.58	7	4				
420	CSCMP	Except NTSC3.58	15	0				
421	F1HER	Except NTSC3.58	3	1				
422	F1VER	Except NTSC3.58	3	1				
423	MREF	Except NTSC3.58	15	2				
424	CDEYE	Except NTSC3.58	3	2				
425	YDEYE	Except NTSC3.58	3	2				
426	MDS	Except NTSC3.58	1	0				
427	F-TBC OFF_MDMPL	Except NTSC3.58	1	0				
428	SEPA_LEVEL_DSUB	480i/576i	3	2				
429	SEPA_LEVEL_DSUB	480p/576p	3	2				
430	SEPA_LEVEL_DSUB	1080i_50	3	2				
431	SEPA_LEVEL_DSUB	1080i_60/720p	3	2				
432	HD-PHASE_DSUB	480i/576i	63	20				
433	HD-PHASE_DSUB	480p/576p	63	20				
434	HD-PHASE_DSUB	1080i_50	63	20				
435	HD-PHASE_DSUB	1080i_60/720p	63	20				
436	Heat APC function (HAPC) available		1	1				
437	γ-select(0:1.0, 1:2.2, 2:2.8)	RF/VIDEO	2	1				
438	γ-select(0:1.0, 1:2.2, 2:2.8)	DVI-PC/DVI-STB/DSUB-RGB	2	1				
439	Select for APC function		1	0				
440	CCFMD function	RF/VIDEO	1	0				
441	CCFMD function	DVI-PC/DVI-STB/DSUB-RGB	1	0				
442	NTSC/EBU(CCFORM)	SD(YCbCr)/Scart-RGB	1	0				
443	NTSC/EBU(CCFORM)	HD(YPbPr)	1	0				
444	NTSC/EBU(CCFORM)	DVI-PC/DVI-STB/DSUB-RGB	1	0				
445	Correction for Tracking (DCBON)	RF/VIDEO-Color Temp. Cool	1	1				
446	Correction for Tracking (DCBON)	RF/VIDEO-Color Temp. Nor/War	1	1				
447	Correction for Tracking (DCBON)	DVI-PC/DVI-STB/DSUB-RGB	1	1				
448	Color Temp. Correction		3	2				
449	Brightness Limitted Function of PANEL [APSON]		1	1				
450	Dynamic Back Light Correction	For LCD	1	1				
451	Dynamic Contrast Correction		1	1				
452	Histogram Color Management		1	1				
453	Histogram Gradation Amp.		1	1				
454	Histogram Enhancer		1	1				
455	Dynamic Enhancer		1	1				
456	FC6 THROUGH 0:OFF, 1:THROUGH ON		1	0				
457	APL Enhancer 0:OFF, 1:ON	For Dynamic mode	1	1				
458	ATC INPUT RED SELECT		1	0				
459	HD/VD OUTPUT LEVEL		1	1				
460	ISM Control for WVGA	For WVGA	1	1				
461	Swivel Demo mode on		50	0				
462	WVGA BRIGHTNESS	For WVGA	1	0				
463	Black insert function 0:Not available, 1:Available	For LCD Dynamic mode or Day	1	0				
464	Dynamic Backlight function 0:No, 1:Yes	For LCD	1	1				
465	DVI-STB Setup 0:None VGA/Others Yes, 1:All none 2:All have	DVI-STB	2	0				
466	HSYNC De-Jitter 0:Low(Disabled), 1:High(Enabled)	DVI-PC	1	0				
467	HSYNC De-Jitter 0:Low(Disabled), 1:High(Enabled)	DVI-STB	1	0				
468	DTT LOG Enable (Reserved)		1	0				
469	AUTO FM/AM (D11-D8)	-						
470	AUTO FM/AM (D 7-D0)	-	254	189				
471	A2_THRESHOLD (D11-D8)	-	15	0				
472	A2_THRESHOLD (D 7-D0)	-	254	112				
473	PRE_AM	Except 4.5MHz (Except Dual/Stereo mode)	254	17				
474	VOL_SCART1 (D15-D8)	-	254	115				
475	VOL_SCART1 (D 7-D5)	-	7	0				
476	PRE_SCART	-	254	31				
477	PRE_FM	4.5MHz(JAPAN)	254	34				
478	PRE_FM	4.5MHz(Except BTSC-SAP mode)	254	32				
479	PRE_FM	4.5MHz(BTSC-SAP)	254	60				
480	PRE_FM	4.5MHz(Except KOREA- Dual/Stereo mode)	254	36				
481	PRE_FM	4.5MHz(KOREA - Dual/Stereo)	254	34				
482	PRE_FM	Except 4.5MHz(Except Dual/Stereo mode)	254	17				
483	PRE_FM	Except 4.5MHz(Dual/Stereo mode)	254	27				
484	PRE_NICAM	-	254	57				
485	CM_THRESHOLD (D15-D8)	-	254	0				
486	CM_THRESHOLD (D7 -D0)	-	254	36				
487	AGC_LEVEL AGCL		3	0				
488	TEXT H sync delay	-	127	0				
489	TEXT V sync delay	-	127	50				
490	TEXT_H_POSITION	-	254	42				
491	TEXT_V_POSITION	-	254	39				
492	Select for APC output [Except Europe model]	Main RF	2	1				
493	L_PLL.GAIN		1	0				
494	DVI-RNG		1	1				
495	HDMI EDID WRITE ENABLE	0:Disenable, 1:Enable	1	1				
496	BPMA : Back Porch Mode,Field2		1	1				

O : shoule be adjusted
Δ : should be followed previous data

ADJ No	Function		Max. value	Default	Changed Component			
	ADJ. Items	Mode			FORMATTER PWB	VIDEO PWB	TUNER PWB	PDP PANEL
497	VCORA : VCO range select		3	0				
498	CRNTA : change pump current select		7	0				
499	TESTA : Matching Test to allow increment of stability counter.		1	1				
500	PRMB : preamble criteria		31	6				
501	HDCP : HDCP enable criteria		31	12				
502	SMPLING	For CCD	255	0				
503	POLLING	For CCD	255	15				
504	START	For CCD	7	2				
505	TIMEOUT	For CCD	30	5				
506	STATUS	For CCD	7	2				
507	CCD-HP	For CCD	79	40				
508	CCD-CLK	For CCD	79	57				
509	Horizontal Position of OSD		15	7				
510	Vertical Position of OSD		15	7				
511	Free							
512	Typical Value of Contrast OSD	DYNAMIC	31	31				
513	Free							
514	Temperature for Fun start (Temp_High)		254	58				
515	Temperature for Fun stop (Temp_Low)		254	55				
516	Display of internal temperature℃ (Temperature)		125	-				
517	Display of Panel map version		255	-				
518	Accumulation time for Panel (hours)		65535	-				
519	Reset function of accumulation time for WVGA/LCD Panel	0:Normal 1:Reset	1	0				
520	Power Save/Screen Saver On/Off Setting at Initialize, Reset and Shipping	P.S/S.S 0:Off/20m 1:On/Off 2:Off/Off	2	0				
521	PC Power Save function (0:Impossible, 1:Possible)		1	1				
522	Screen Saver-Picture shift amount 0:1pixel／1:2pixel／2:3pixel		2	0				
523	Screen Saver-Picture shift Direction 0:dia /1:cross /2:up/down /3:left/right		3	0				
524	Waite Time for POWER SAVE function (s)	VIDEO/PC	254	15				
525	BURN-IN enable/ disenable	0:Disenable, 1:Enable	1	1				
526	BURN-IN mode		2	2				
527	Recovery to an error of OSC frequency of Ceramic resonator for timer		62	34				
528	EURO DK-SECAM MASK(V=60) 0:Normal 1:Mask(V=60)		1	0				
529	Set Sound System at Auto mode of Sound Sys. (0:auto, 1:4.5MHz)	Main	1	0				
530	Power condition at power save mode of PC mode after done RESET function	0:Keep last condition, 1:Return to normal condition	1	0				
531	Select Wide mode for Europe model (Normal= 5mode/ For Service= 10 mode)	0:Normal, 1:For service	1	0				
532	Thermo sensor function available or not 0:None, 1:Yes		1	0				
533	Video Input function available or not at RGB1 & RGB2 mode	0:Not Available, 1:Available	1	1				
534	EURO SOUND SYSTEM DK Disable 0:Enable 1:Disable		1	0				
535	Remote Function available 0:NO, 1:YES		1	1				
536	Key Function available 0:NO, 1:YES		1	1				
537	DVI-STB/RGB-COMPONENT Function available 0:NO, 1:YES		1	0				
538	Terminal Mode Function available 0:Not Available, 1:Available	RS232C	1	1				
539	Select color control (0:Asia, 1:South America)	Main/Sub	1	0				
540	Language (Refer to below)		6	0				
541	Hotel Mode(0:No, 1:Yes)		2	0				
542	Analog Data (0:Keep EEPROM, 1:Not Keep to EEPROM)		1	0				
543	Maximum Volume Limit		63	63				
544	Power Mode(0:Last mode, 1:Pos1, 2-7:V1-6, 8-9:RGB1-2)		9	0				
545	Free							
546	Channel Select (0:CCIR, 1:CHINA)		1	0				
547	Auto_sound 4.5 (0:Korea, 1:BTSC, 2:Japan)		2	0				
548	T/TEXT(0:None, 1:Yes)		1	1				
549	Free							
550	Channel Preset(0:VESTEL, 1:GIFU, 2:HAMA, 3:HFDM, 4:AUSTRALIA)		4	1				
551	V FREQ 60Hz Force (0:None, 1:Yes)		1	0				
552	Offset value of adjusted TINT	For COMPAL factory	20	11				
553	Use "TINT Offset ↑" 0:No, 1:Yes	For COMPAL factory	1	0				
554	PDP-BLK ON/OFF	1:ON, 0:OFF	1	0				
555	IIC BUS Data/Clock Open(0:Close, 1:Open)		1	0				
556	Protect for Image Retention 0:Off, 1:7%, 2:14%, 3:21%, 4:AUTO	Dynamic mode	4	4				
557	Protect for Image Retention 0:Off, 1:7%, 2:14%, 3:21%, 4:AUTO	Natural mode	4	4				
558	Protect for Image Retention 0:Off, 1:7%, 2:14%, 3:21%, 4:AUTO	Cinema mode	4	4				
559	Dispersion Time of Sustain current 0:2 Times, 1:4 times	For Dynamic mode	1	0				
560	Dispersion Time of Sustain current 0:2 Times, 1:4 times	For Natural mode	1	1				
561	Dispersion Time of Sustain current 0:2 Times, 1:4 times	For Cinema mode	1	1				
562	Dispersion Time of Sustain current 0:2 Times, 1:4 times	For PC mode	1	1				
563	Dispersion Time of Sustain current 0:2 Times, 1:4 times	For PC-Movie mode	1	1				
564	Q mode 0:Freeze, 1:Move 1, 2:Move 2	For 50Hz[Dynamic] mode	2	1				
565	Q mode 0:Freeze, 1:Move 1, 2:Move 2	For 50Hz[Natural] mode	2	1				
566	Q mode 0:Freeze, 1:Move 1, 2:Move 2	For 50Hz[Cinema] mode	2	1				
567	Q mode 0:Freeze, 1:Move 1, 2:Move 2	For 60Hz[Dynamic] mode	2	1				
568	Q mode 0:Freeze, 1:Move 1, 2:Move 2	For 60Hz[Natural] mode	2	1				
569	Q mode 0:Freeze, 1:Move 1, 2:Move 2	For 60Hz[Cinema] mode	2	1				
570	Q mode 0:Freeze, 1:Move 1, 2:Move 2	For 70Hz(PC)	2	0				
571	Main/Sub YFRNR passage level [MYNRP6]	480i/576i (HDMI)	7	0				
572	[MYNRP7]	480p/576p (HDMI)	7	0				
573	[MYNRP8]	1080i-50/720p-50 (HDMI)	7	1				
574	[MYNRP8']	1080i-60/720p-60 (HDMI)	7	0				
575	Dummy575		-	-				
576	Gray level of BM	Index	31	4				
577	Display of BM version		127	-				
578	TA1391: SYNC SW Change	0:SYNC, 1:HDVD1&2	1	0				
579	Free							
580	Free							
581	Counting time for discrimination of fH(M30625/TA1370)	—	31	2				
582	Counting time for discrimination of fV(M30625/TA1370)	—	31	2				
583	Counting time for discrimination of fV(TB1274)	—	31	2				
584	Lower Limits value for Sync Detect of 2ms interval	For AFC at TV mode	254	25				
585	Lower Limits value for Sync Detect of 2ms interval	For Free Running at TV mode	254	30				
586	Lower Limits value for Sync Detect of 2ms interval	For AUTO OFF at TV mode	254	25				
587	Lower Limits value for Sync Detect of 2ms interval	For Free Running at AV mode	254	30				
588	Lower Limits value for Sync Detect of 2ms interval	For Power Save at AV mode	254	5				
589	Upper Limits Value for Sync Detect of 2ms interval	For AFC at TV mode	254	40				
590	Upper Limits Value for Sync Detect of 2ms interval	For Free Running at TV mode	254	45				
591	Upper Limits Value for Sync Detect of 2ms interval	For AUTO OFF at TV mode	254	35				

O : shoule be adjusted
Δ : should be followed previous data

ADJ No	Function		Max. value	Default	Changed Component			
	ADJ. Items	Mode			FORMATTER PWB	VIDEO PWB	TUNER PWB	PDP PANEL
592	Upper Limits Value for Sync Detect of 2ms interval	For Free Running at AV mode	254	45				
593	Upper Limits Value for Sync Detect of 2ms interval	For Power Save at AV mode	254	200				
594	V detection(Format PWB) 0:out of range, 128:NO V(or out of spec),	50/60(Hz)	255	-				
595	H detection(Format PWB) 0:out of range, 128:NO H(or out of spec),	15/28/31/33/45(kHz)	255	-				
596	V detection(VideoPWB) 0:out of range, 128:NO V(or out of spec), 255:interrupt	50/60(Hz)	255	-				
597	H detection(Video PWB) 0:out of range, 128:NO H(or out of spec),	15/28/31/33/45(kHz)	255	-				
598	COLOR SYSTEM CONTROL-MODE(0:BW, 2:3.58NTSC, 3:4.43NTSC, ･･･)	Main	-	-				
599	COLOR SYSTEM CONTROL-MODE(0:BW, 2:3.58NTSC, 3:4.43NTSC, ･･･)	Sub	-	-				
600	Counting Value of 2ms Sync.Detect	Main	-	-				
601	Counting Value of 2ms Sync.Detect	Sub	-	-				
602	TB1274 Read Data(00h)	Main	-	-				
603	TB1274 Read Data(01h)	Main	-	-				
604	TB1274 Read Data(00h)	Sub	-	-				
605	TB1274 Read Data(01h)	Sub	-	-				
606	MSP Read Data (CNTROL) (D15-D8)		-	-				
607	MSP Read Data (CNTROL) (D 7-D0)		-	-				
608	MSP Read Data (STANDARD_RES) (D15-D8)		-	-				
609	MSP Read Data (STANDARD_RES) (D 7-D0)		-	-				
610	MSP Read Data (STATUS) (D15-D8)		-	-				
611	MSP Read Data (STATUS) (D 7-D0)		-	-				
612	TA1391FG Read Data(00h)		-	-				
613	TA1391FG Read Data(01h)		-	-				
614	TA1391FG Read Data(02h)		-	-				
615	TA1391FG Read Data(03h)		-	-				
616	TA1391FG Read Data(04h)		-	-				
617	TA1391FG Read Data(05h)		-	-				
618	TA1391FG Read Data(06h)		-	-				
619	TA1391FG Read Data(07h)		-	-				
620	TA1370G Read Data(00h)		-	-				
621	TA1370G Read Data(01h)		-	-				
622	Sil9993 Read Data SYNC1 : VSYNC/Clock detect/Sync detect 1		-	-				
623	Sil9993 Read Data NHRDL1 : N hardware value 1		-	-				
624	Sil9993 Read Data NHRDM1 : N hardware value 1		-	-				
625	Sil9993 Read Data NHRDH1 : N hardware value 1		-	-				
626	Sil9993 Read Data CHRDL1 : CTS hardware value 1		-	-				
627	Sil9993 Read Data CHRDM1 : CTS hardware value 1		-	-				
628	Sil9993 Read Data CHRDH1 : CTS hardware value 1		-	-				
629	Sil9993 Read Data ACR1 : ACR PLL hardware value 1		-	-				
630	Sil9993 Read Data ACRS1 : ACR PLL hardware value 1		-	-				
631	Sil9993 Read Data SFREQ1 : "Extracted Sampling Frequency 1 channel status b24-27(same value at 0x30)"		-	-				
632	Sil9993 Read Data CLKFRQ1: Clock Accuracy/Sampling Frequency 1		-	-				
633	Sil9993 Read Data ALNG1 : Audio length/Audio length max 1		-	-				
634	Sil9993 Read Data MT_MD1 : AV mute/HDMI mode 1		-	-				
635	Sil9993 Read Data VTYP1 : AVI infoframe type code 1		-	-				
636	Sil9993 Read Data VVER1 : AVI infoframe version code 1		-	-				
637	Sil9993 Read Data VINFO11: AVI infoframe data 1		-	-				
638	Sil9993 Read Data VINFO21:		-	-				
639	Sil9993 Read Data VINFO31:		-	-				
640	Sil9993 Read Data VINFO41:		-	-				
641	Sil9993 Read Data VINFO51:		-	-				
642	Sil9993 Read Data ATYP1 : AUDIO InfoFrame Type Code 1		-	-				
643	Sil9993 Read Data AVER1 : AUDIO InfoFrame Version Code 1		-	-				
644	Sil9993 Read Data AINFO11: AUDIO InfoFrame Data Bytes 1		-	-				
645	Sil9993 Read Data AINFO21:		-	-				
646	Sil9993 Read Data AINFO31:		-	-				
647	Sil9993 Read Data AINFO41:		-	-				
648	Sil9993 Read Data AINFO51:		-	-				
649	Initialize function for EEPROM of Video PWB board		1	0				
650	Check condition of EEPROM of Video PWB board	0:Normal, 1:Abnormal(Fail or no assembly)	1	-				
651	W/B Initialize		1	-				
652	Gain adjustment of RGB amplifier (FLAON)	Main	-	-	O			
653	Gain adjustment of RGB amplifier	Sub	-	-	O			
654	Automatic White Peak Adj.	Single Picture mode	-	-				
655	Automatic Color Level Adj. (TB1274BF)	Main PAL/NTSC(COMPOSITE	-	-				
656	Automatic Color Level Adj. (TB1274BF)	Sub PAL/NTSC(COMPOSITE	-	-				
657	Automatic White Peak Adj.	Multi Picture mode	-	-				
658	EEPROM Initialize(0:No, 1:Yes)		1	0				
659	Enter to SUB adjust menu		-	-				
660	Enter to service menu of FC sub mi-con		-	-				

● Service adjustment items by I^2C-bus control (SUB adjust menu)

(*The change to a sub menu. press “ok” key after no.659 with a main menu)

O : shoule be adjusted

Δ : should be followed previous data

ADJ No.	Function		Max. Value	Default	Changed Component			
	ADJ. Items	Mode			FORMATTER PWB	VIDEO PWB	TUNER PWB	PDP PANEL
0	R DRIVE1 [RF/VIDEO/DSUB-COMP]	COOL	255	255	Δ			O
1	G DRIVE1 [RF/VIDEO/DSUB-COMP]	COOL	255	255	Δ			O
2	B DRIVE1 [RF/VIDEO/DSUB-COMP]	COOL	255	255	Δ			O
3	R DRIVE2 [RF/VIDEO/DSUB-COMP]	NORMAL	255	255	Δ			O
4	G DRIVE2 [RF/VIDEO/DSUB-COMP]	NORMAL	255	255	Δ			O
5	B DRIVE2 [RF/VIDEO/DSUB-COMP]	NORMAL	255	255	Δ			O
6	R DRIVE3 [RF/VIDEO/DSUB-COMP]	WARM	255	255	Δ			O
7	G DRIVE3 [RF/VIDEO/DSUB-COMP]	WARM	255	255	Δ			O
8	B DRIVE3 [RF/VIDEO/DSUB-COMP]	WARM	255	255	Δ			O
9	R DRIVE4 [RF/VIDEO/DSUB-COMP]	BLACK & WHITE	255	255	Δ			O
10	G DRIVE4 [RF/VIDEO/DSUB-COMP]	BLACK & WHITE	255	255	Δ			O
11	B DRIVE4 [RF/VIDEO/DSUB-COMP]	BLACK & WHITE	255	255	Δ			O
12	R DRIVE1 [DVI-PC/DVI-STB/DSUB-RGB]	COOL	255	255	Δ			O
13	G DRIVE1 [DVI-PC/DVI-STB/DSUB-RGB]	COOL	255	255	Δ			O
14	B DRIVE1 [DVI-PC/DVI-STB/DSUB-RGB]	COOL	255	255	Δ			O
15	R DRIVE2 [DVI-PC/DVI-STB/DSUB-RGB]	NORMAL	255	255	Δ			O
16	G DRIVE2 [DVI-PC/DVI-STB/DSUB-RGB]	NORMAL	255	255	Δ			O
17	B DRIVE2 [DVI-PC/DVI-STB/DSUB-RGB]	NORMAL	255	255	Δ			O
18	R DRIVE3 [DVI-PC/DVI-STB/DSUB-RGB]	WARM	255	255	Δ			O
19	G DRIVE3 [DVI-PC/DVI-STB/DSUB-RGB]	WARM	255	255	Δ			O
20	B DRIVE3 [DVI-PC/DVI-STB/DSUB-RGB]	WARM	255	255	Δ			O
21	R DRIVE4 [DVI-PC/DVI-STB/DSUB-RGB]	BLACK & WHITE	255	255	Δ			O
22	G DRIVE4 [DVI-PC/DVI-STB/DSUB-RGB]	BLACK & WHITE	255	255	Δ			O
23	B DRIVE4 [DVI-PC/DVI-STB/DSUB-RGB]	BLACK & WHITE	255	255	Δ			O
24	Brightness Center (CM)	NTSC/PAL/ Multi picture	254	128				
25	Brightness Center (CM)	Scart-RGB(50/60Hz)	254	128				
26	Brightness Center (CM)	480i/576i/480p/576p	254	128				
27	Brightness Center (CM)	1080i-50/60/720p	254	124				
28	Brightness Center (CM)	DVI-PC	254	128				
29	Brightness Center (CM)	DVI-STB	254	128				
30	Brightness Center (CM)	DSUB-RGB	254	128				
31	Brightness Center (CM)	Expand DSUB-RGB (Reserved)	254	128				
32	Brightness Center (CM)	HDMI	254	128				
33	Brightness center (CM) offset	AV1	254	127				
34	Brightness center (CM) offset	AV2	254	127				
35	Brightness center (CM) offset	AV3	254	127				
36	Brightness center (CM) offset	AV4	254	127				
37	Brightness center (CM) offset	AV5	254	127				
38	Brightness center (CM) offset	DSUB-COMP	254	127				
39	Color Center (CM)	SD(YCbCr)(50Hz)	127	72				
40	Color Center (CM)	SD(YCbCr)(60Hz)	127	68				
41	Color Center (CM)	Scart-RGB(50/60Hz)	127	70				
42	Color Center (CM)	HD(YPbPr)(50/60Hz)	127	70				
43	Color Center (CM)	DVI-PC	127	64				
44	Color Center (CM)	DVI-STB (480i/576i/480p/576p)	127	62				
45	Color Center (CM)	DVI-STB (1080i-50/60/720p)	127	62				
46	Color Center (CM)	DVI-STB (VGA)	127	62				
47	Color Center (CM)	DSUB-RGB	127	64				
48	Tint Center (CM)	PAL	254	125				
49	Tint Center (CM)	Scart-RGB(50Hz)	254	121				
50	Tint Center (CM)	Scart-RGB(60Hz)	254	120				
51	Tint Center (CM)	SD(YCbCr)(50Hz)	254	123				
52	Tint Center (CM)	SD(YCbCr)(60Hz)	254	130				
53	Tint Center (CM)	HD(YPbPr)(50/60Hz)	254	135				
54	Tint Center (CM)	DVI-PC	254	128				
55	Tint Center (CM)	DVI-STB (480i/576i/480p/576p)	254	128				
56	Tint Center (CM)	DVI-STB (1080i-50/60/720p)	254	128				
57	Tint Center (CM)	DVI-STB (VGA)	254	128				
58	Tint Center (CM)	DSUB-RGB	254	128				
59	Center of Sharpness (Y-Enhancer Gain for HV)	RF	31	10				
60	Center of Sharpness (Y-Enhancer Gain for HV)	VIDEO	31	15				
61	Center of Sharpness (Y-Enhancer Gain for HV)	Scart-RGB(50/60Hz)	31	14				
62	Center of Sharpness (Y-Enhancer Gain for HV)	480i/576i	31	10				
63	Center of Sharpness (Y-Enhancer Gain for HV)	480p/576p	31	15				
64	Center of Sharpness (Y-Enhancer Gain for HV)	720p	31	6				
65	Center of Sharpness (Y-Enhancer Gain for HV)	1080i-50/60	31	10				
66	Center of Sharpness (Y-Enhancer Gain for HV)	TEXT(for split)	31	19				
67	Center of Sharpness (Y-Enhancer Gain for HV)	DVI-STB (480i/576i)	31	14				
68	Center of Sharpness (Y-Enhancer Gain for HV)	DVI-STB (480p/576p)	31	10				
69	Center of Sharpness (Y-Enhancer Gain for HV)	DVI-STB (720p)	31	6				
70	Center of Sharpness (Y-Enhancer Gain for HV)	DVI-STB (1080i-50/60)	31	10				
71	Center of Sharpness (Y-Enhancer Gain for HV)	DVI-STB (VGA)	31	10				
72	Contrast Center (CM)	RF	254	137				
73	Contrast Center (CM)	AV1	254	137				
74	Contrast Center (CM)	AV2	254	137				
75	Contrast Center (CM)	AV3	254	137				
76	Contrast Center (CM)	AV4	254	137				
77	Contrast Center (CM)	AV5	254	137				
78	Contrast Center (CM)	DVI-PC	254	128				
79	Contrast Center (CM)	DVI-STB (With Setup)	254	149				
80	Contrast Center (CM)	DVI-STB (Without Setup)	254	128				
81	Contrast Center (CM)	DSUB-RGB	254	128				
82	Contrast Center (CM)	Expand DSUB-RGB (Reserved)	254	128				
83	Contrast Center (CM)	DSUB-COMP	254	137				
84	Maximum Value of Contrast at REAL/NORMAL mode		254	188				
85	Offset Value of Contrast data at SPLIT mode		120	53				
86	Offset value of gain for Black Stretch function	Except OFF/LOW/HIGH mode	63	32				
87	Horizontal Enhance	TEXT	3	3				
88	Vertical Enhance	TEXT	3	3				
89	Horizontal filter SW [HHPF0]	NTSC/480i	1	0				
90	(Enhancer Gain) [HHPF1]	PAL/576i	1	0				
91	[HHPF2]	480p/576p/1080i-50/60/720p	1	0				

O : shoule be adjusted

∆ : should be followed previous data

ADJ No.	Function		Max. Value	Default	Changed Component			
	ADJ. Items	Mode			FORMATTER PWB	VIDEO PWB	TUNER PWB	PDP PANEL
92	Horizontal Coring Level [HECOR1]	NTSC-RF	15	3				
93	(Enhancer Gain) [HECOR2]	PAL-RF/ Multi picture	15	2				
94	[HECOR3]	NTSC-VIDEO	15	1				
95	[HECOR4]	PAL-VIDEO	15	1				
96	[HECOR5']	Scart-RGB(50/60Hz)	15	15				
97	[HECOR5]	480i/576i	15	2				
98	[HECOR6]	480p/576p	15	1				
99	[HECOR7]	1080i-50/60/720p	15	1				
100	[HECORPC]	PC	15	1				
101	Vertical Coring Level [VECOR1]	NTSC-RF	15	1				
102	(Enhancer Gain) [VECOR2]	PAL-RF/ Multi picture	15	8				
103	[VECOR3]	NTSC-VIDEO	15	1				
104	[VECOR4]	PAL-VIDEO	15	1				
105	[VECOR5']	Scart-RGB(50/60Hz)	15	15				
106	[VECOR5]	480i/576i	15	0				
107	[VECOR6]	480p/576p	15	15				
108	[VECOR7]	1080i-50/60/720p	15	15				
109	[VECORPC]	PC	15	0				
110	Enhancer gain of VH for C	TEXT	31	0				
111	Coring Amplitude for Y/G [YC0R0]	NTSC/PAL-RF/ Multi picture	7	7				
112	[YC0R1]	NTSC/PAL-VIDEO	7	5				
113	[YC0R2]	480i/576i/Scart-RGB(50/60Hz)	7	4				
114	[YC0R3]	480p/576p	7	1				
115	[YC0R4]	1080i-50/60/720p	7	1				
116	[YC0R5]	NTSC/PAL -input	7	4				
117	Coring Amplitube for B-Y/B,R-Y/R [CC0R0]	NTSC/PAL/480i/576i/ Multi picture	7	1				
118	[CC0R1]	480p/576p/1080i-50/60/720p	7	1				
119	YFRNR input Gain(Main) 2pictures [MYNRG0]	HD-except HD	7	1				
120	HD-NTSC, HD-PAL (sub) [MYNRG1]	HD-HD	7	4				
121	4pictures [MYNRG2]	NT-* /PAL-*	7	1				
122	[MYNRG3]	HD-*	7	4				
123	YFRNR input Gain(Sub) [YCNRG0]	2pictures	7	4				
124	[YCNRG1]	4pictures/12pictures	7	1				
125	CFRNR input Gain(Main) 2pictures [MCNRG0]	HD-except HD	7	3				
126	HD-NTSC, HD-PAL (SUB) [MCNRG1]	HD-HD	7	4				
127	[MCNRG2]	NT-* /PAL-*	7	4				
128	[MCNRG3]	HD-*	7	4				
129	CFRNR input Gain(Sub) [SCNRG0]	2pictures	7	3				
130	[SCNRG1]	4pictures/12pictures	7	4				
131	Vertical Enhancer Gain for Y/G [YVEG0]	NTSC/PAL(-except RF)/480i/576i	15	15				
132	[YVEG1]	480p/576p	15	4				
133	[YVEG2]	1080i-50/60/720p	15	15				
134	[YVEG3]	PAL(-RF)/ Multi picture	15	15				
135	Vertical DSB Gain for Y/G [YVDSBG0]	NTSC/PAL/480i/576i/ Multi picture	3	3				
136	[YVDSBG1]	480p/576p	3	0				
137	[YVDSBG2]	1080i-50/60/720p	3	2				
138	Vertical DSB Coring for Y/G [YVDSBC0]	NTSC/PAL/480i/576i/ Multi picture	7	7				
139	[YVDSBC1]	480p/576p/1080i-50/60/720p	7	0				
140	Vertical Enhancer Clip for Y/G 0:LTI [YVECLP0]	NTSC/PAL/480i/576i/ Multi picture	1	1				
141	[YVECLP1]	480p/576p/1080i-50/60/720p	1	0				
142	Vertical Clip Offset Level [YVECLPL0]	NTSC/PAL/480i/576i/ Multi picture	15	15				
143	[YVECLPL1]	480p/576p/1080i-50/60/720p	15	8				
144	Vertical Non Linear Peaking for Y/G [YVNLP0]	NTSC/PAL/480i/576i/ Multi picture	63	0				
145	[YVNLP1]	480p/576p/1080i-50/60/720p	63	0				
146	Horizontal Enhancer Gain for Y/R [YHEG0]	NTSC/PAL(-except RF)/480i/576i	15	15				
147	[YHEG1]	480p/576p	15	15				
148	[YHEG2]	1080i-50/60/720p-60	15	15				
149	[YHEG3]	PAL(-RF)/ Multi picture	15	15				
150	Horizontal DSB Gain for Y/R [YHDSBG0]	NTSC/PAL/480i/576i/ Multi picture	3	2				
151	[YHDSBG1]	480p/576p	3	0				
152	[YHDSBG2]	1080i-50/60/720p	3	2				
153	Horizontal DSB Coring for Y/R [YHDSBC0]	NTSC/PAL/480i/576i/ Multi picture	7	7				
154	[YHDSBC1]	480p/576p/1080i-50/60/720p	7	7				
155	Horizontal Enhancer Clip for Y/R 0:LTI [YHDSBC0]	NTSC/PAL/480i/576i/ Multi picture	1	0				
156	[YHDSBC1]	480p/576p/1080i-50/60/720p	1	0				
157	Horizontal Clip Offset Level for Y/R [YHECLPL0]	RF/ Multi picture	15	4				
158	[YHECLPL1]	NTSC/PAL-VIDEO	15	4				
159	[YHECLPL3]	480i/576i/Scart-RGB(50/60Hz)	15	10				
160	[YHECLPL2]	480p/576p/1080i-50/60/720p	15	1				
161	Horizontal Non Linear Peaking for Y/G [YHNLP0]	NTSC/PAL/480i/576i/ Multi picture	63	0				
162	[YHNLP1]	480p/576p/1080i-50/60/720p	63	0				
163	Horizontal HPF Peak Freq. SW for Y/R [YHHPF0]	NTSC/PAL/480i/576i/ Multi picture	3	2				
164	[YHHPF1]	480p/576p	3	2				
165	[YHHPF2]	1080i-50/60/720p	3	2				
166	Initial value of Contrast	Extend 1 of Panel Life function	127	93				
167	Interval time of correction time	Extend 1 of Panel Life function	127	10				
168	Additional value of Contrast	Extend 1 of Panel Life function	127	1				
169	Initial value of Contrast	Extend 2 of Panel Life function	127	63				
170	Interval time of correction time	Extend 2 of Panel Life function	127	6				
171	Additional value of Contrast	Extend 2 of Panel Life function	127	1				
172	Menu Init. Contrast (-31[0]～+40[71])	For Dynamic	71	62				
173	Menu Init. Contrast (-31[0]～+40[71])	For Natural	71	62				
174	Menu Init. Contrast (-31[0]～+40[71])	For Cinema	71	51				
175	Menu Init. Brightness (-31[0]～+31[62])	For Dynamic	62	31				
176	Menu Init. Brightness (-31[0]～+31[62])	For Natural	62	31				
177	Menu Init. Brightness (-31[0]～+31[62])	For Cinema	62	33				
178	Menu Init. Color (-31[0]～+31[62])	For Dynamic	62	36				
179	Menu Init. Color (-31[0]～+31[62])	For Natural	62	26				
180	Menu Init. Color (-31[0]～+31[62])	For Cinema	62	21				
181	Menu Init. Sharpness (-15[0]～+15[30])	For Dynamic	30	20				
182	Menu Init. Sharpness (-15[0]～+15[30])	For Natural	30	15				
183	Menu Init. Sharpness (-15[0]～+15[30])	For Cinema	30	10				

O : shoule be adjusted

Δ : should be followed previous data

ADJ No.	Function		Max. Value	Default	Changed Component			
	ADJ. Items	Mode			FORMATTER PWB	VIDEO PWB	TUNER PWB	PDP PANEL
184	Menu Init. Color Temp.(Cool[0]/Normal[1]/Warm[2]/B&W[3])	For Dynamic	3	0				
185	Menu Init. Color Temp.(Cool[0]/Normal[1]/Warm[2]/B&W[3])	For Natural	3	1				
186	Menu Init. Color Temp.(Cool[0]/Normal[1]/Warm[2]/B&W[3])	For Cinema	3	2				
187	Menu Init. Black stretch (Off[0]/Low[1]/Mid.[2]/High[3])	For Dynamic	3	2				
188	Menu Init. Black stretch (Off[0]/Low[1]/Mid.[2]/High[3])	For Natural	3	1				
189	Menu Init. Black stretch (Off[0]/Low[1]/Mid.[2]/High[3])	For Cinema	3	0				
190	Menu Init. YNR (Off[0]/Low[1]/High[2])	For Dynamic	2	0				
191	Menu Init. YNR (Off[0]/Low[1]/High[2])	For Natural	2	0				
192	Menu Init. YNR (Off[0]/Low[1]/High[2])	For Cinema	2	0				
193	Menu Init. LTI (Off[0]/Low[1]/Mid.[2]/High[3])	For Dynamic	3	2				
194	Menu Init. LTI (Off[0]/Low[1]/Mid.[2]/High[3])	For Natural	3	1				
195	Menu Init. LTI (Off[0]/Low[1]/Mid.[2]/High[3])	For Cinema	3	0				
196	Center of Sharpness (HV Enhancer Gain for Y)	HDMI (480i/576i)	31	10				
197	Center of Sharpness (HV Enhancer Gain for Y)	HDMI (480p/576p)	31	10				
198	Center of Sharpness (HV Enhancer Gain for Y)	HDMI (720p)	31	6				
199	Center of Sharpness (HV Enhancer Gain for Y)	HDMI (1080i-50/60)	31	6				
200	Center of Sharpness (HV Enhancer Gain for Y)	HDMI (VGA)	31	10				
201	Color Center (CM)	HDMI-YCbCr(50Hz:576i/576p)	127	65				
202	Color Center (CM)	HDMI-YCbCr(60Hz:480i/480p)	127	65				
203	Color Center (CM)	HDMI-YPbPr(1080i-50/60/720p)	127	65				
204	Tint Center (CM)	HDMI-YCbCr(50Hz:576i/576p)	254	126				
205	Tint Center (CM)	HDMI-YCbCr(60Hz:480i/480p)	254	126				
206	Tint Center (CM)	HDMI-YPbPr(1080i-50/60/720p)	254	126				
207	Sharpness Gain(RF) BG/DK/I	Main	15	8				
208	Sharpness Gain(RF) M	Main	15	8				
209	Sharpness Gain(RF) L	Main	15	8				
210	Sharpness Gain(RF) L'	Main	15	8				
211	Sharpness Gain(VIDEO) PAL	Main	15	10				
212	Sharpness Gain(VIDEO) NTSC3.58	Main	15	10				
213	Sharpness Gain(VIDEO) SECAM.B/W	Main	15	8				
214	Sharpness Gain(VIDEO) NTSC4.43	Main	15	8				
215	Sharpness Gain(VIDEO) N-PAL	Main	15	8				
216	Sharpness Gain(VIDEO) M-PAL	Main	15	8				
217	Shar ness Gain S.VIDEO	Main	15	7				
218	Horizontal HPF Peak Frequency	720p-50	15	5				
219	Brightness Center (CM)	DTT	254	128				
220	Color Center (CM)	DTT	127	70				
221	Tint Center (CM)	DTT	254	121				
222	Center of Sharpness (HV Enhancer Gain for Y)	DTT	31	14				
223	Contrast Center (CM)	DTT	254	137				
224	Horizontal Coring Amount [HECOR5']	DTT	15	15				
225	Vertical Coring Amount [VECOR5']	DTT	15	15				
226	Coring Amplitude for Y/G [YCOR2]	DTT	7	4				
227	Vertical Enhancer Gain for Y/G [YVEG0]	DTT	15	15				
228	Vertical DSB Gain for Y/G [YVDSBG0]	DTT	3	3				
229	Vertical DSB Coring for Y/G [YVDSBC0]	DTT	7	7				
230	Vertical CLIP Offset Level for Y/G [YVECLPL0]	DTT	15	15				
231	Horizontal Enhancer Gain for Y/G [YHEG0]	DTT	15	5				
232	Horizontal DSB Gain for Y/G [YHDSBG0]	DTT	3	2				
233	Horizontal DSB coring for Y/G [YHDSBC0]	DTT	7	7				
234	Horizontal CLIP Offset Level for Y/G [YHECLPLP3]	DTT	15	5				

● Factory Reset

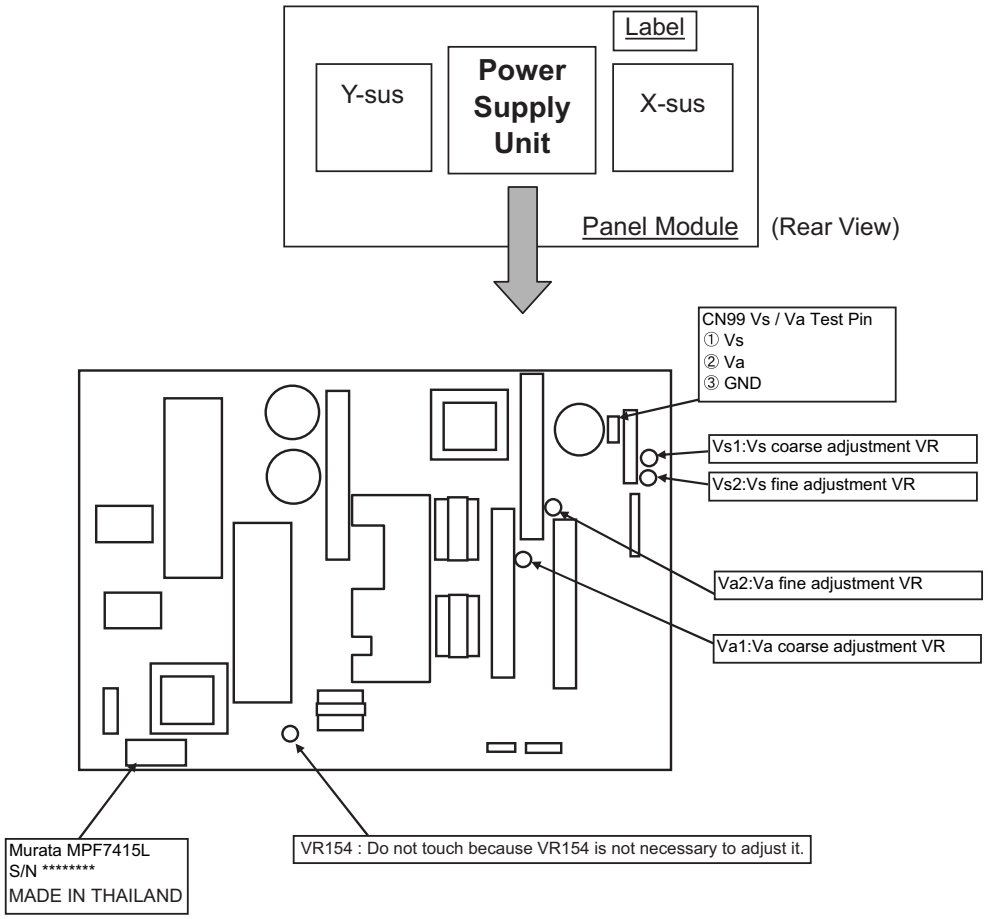
After all of the adjustments of main chassis are finished, perform FACTORY RESET.

Press the SUB-POWER(⏻) button, INPUT SELECT(⏎) button and ▲ button at the same time, and hold for more than 5 seconds.

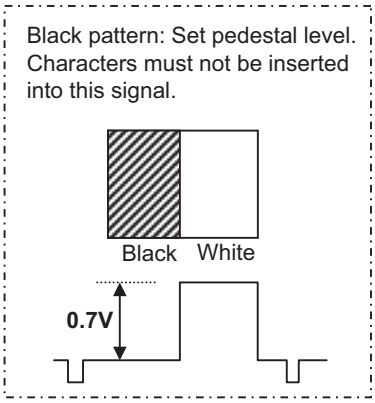
The unit is set to factory settings.

Item	Power Unit Vs, Va Adjustment
Applicable Model	All models

Preparation		Procedure	
(1)	Turn on the set and perform pre-heat run more than 1 min on burn-in screen.	(1)	Turn Vs ADJ to adjust Vs voltage to be within ±0.1V of the value specified in the label on the panel. ① Adjust within ± 1V at Vs1 ② Adjust within ± 0.1V at Vs2
(2)	Receive full back pattern signal (or Video silence signal; but it will be automatically turned off after a few seconds by power save function.)	(2)	Turn Va ADJ to adjust Va voltage to be within ±0.2V of the value specified in the label on the panel. ① Adjust within ± 1V at Va1 ② Adjust within ± 0.2V at Va2
(3)	Connect voltmeter leads to Vs (or Va) and GND test points of the power unit.	(3)	Reconfirm that Vs voltage remains within ±0.1V of the specified value. Readjust if it's outside of the margin.
			Label example <LOT>N6 Vs= 80.0V Va=60.0V Vw=140.0V Vx=60.0V

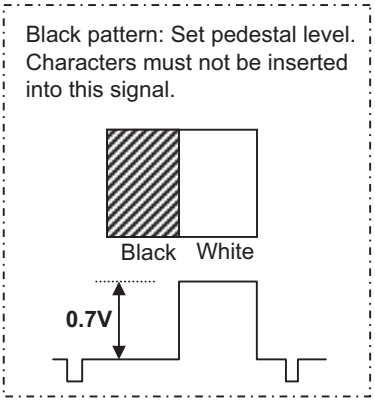


Item	RGB Amplitude Adjustment (PC D-Sub input)
Applicable Model	All models

Preparation		Procedure	
(1)	Input RGB amplitude adjustment signal of VGA (60Hz) into RGB2 [D-sub] terminal. 	(1)	Receive PC signal (VGA [60Hz]), and indicate Service Adjustment Menu.(Main)
		(2)	Select No.652 of Service Adjustment Menu. Press [OK] key more than 2 seconds to start the automatic adjustment. The adjustment completes when the OSD reappears.

[Note] Never adjust without use of the specified signal.
If that were done by mistake, the picture would become abnormal in black level, contrast and color.
In this case, it will be recovered by re-adjustment in the specified way.

Item	RGB Amplitude Adjustment (Main/Sub)
Applicable Model	All models

Preparation		Procedure	
(1)	Input 576p or 480p adjustment signal into AV3 terminal. 	(1)	Receive 576p or 480p adjustment signal on AV3 terminal input. Indicate Service Adjustment Menu.
		(2)	Select No.652 (RGB amplitude gain adjustment Main) of Service Adjustment Menu. Press [OK] key more than 2 seconds to start the automatic adjustment. The adjustment completes when the indication [Auto Mode] at the bottom of the screen disappears.
		(3)	Select No.653 (RGB amplitude gain adjustment Sub) of Service Adjustment Menu. Press [OK] key more than 2 seconds to start the automatic adjustment. The adjustment completes when the indication [Auto Mode] at the bottom of the screen disappears.

[Note] Never adjust without use of the specified signal.
If that were done by mistake, the picture would become abnormal in black level, contrast and color.
In this case, it will be recovered by re-adjustment in the specified way.

Item	Video Color Temperature Adjustment (Cool)
Applicable Model	All models

Adjustment Preparations		Adjustment Procedures	
(1)	Set the signal generator output as All White.	(1)	Perform the following adjustment with the remote control
(2)	Component signal (480i) Video level : 0.700Vp-p Sync level : 0.300Vp-p Setup level : 0V	(2)	Set the CRT color analyzer (CA100) at the center of the panel.
(3)	Picture Menu is set as [RESET].	(3)	Ensure that the service adjustment menu (sub menu) No. 0, 1, 2, are all set as 255.
(4)	Confirm that the mode is set as Factory Adjustment mode.	(4)	After receiving the video signal, step down the two (or one) among adjustment No. 0, 1, 2 and adjust the values as shown below. Note) At least one of the data shoud be 255. Specification Video color temperature (Cool) x=0.258±0.005 y=0.273±0.005

Item	Video Color Temperature Adjustment (Normal)
Applicable Model	All models

Preparation		Procedure	
(1)	Set signal generator output as All White (Window ratio: 100%).	(1)	Perform the following adjustment with the remote control.
(2)	Component signal (480i) Video level : 0.700Vp-p Sync level : 0.300Vp-p Setup level : 0V	(2)	Set the CRT Color Analyzer (CA-100) at the center of the panel.
(3)	Check that Picture Menu is set as [RESET] mode.	(3)	Ensure that service adjustment menu (sub) No. 3, 4, 5 are all set as 255.
(4)	Set into Factory Adjustment mode.	(4)	After receiving the video signal, step down the two (or one) among adjustment No. 3, 4, 5 and adjust the values as shown below. (Note) At least one of the data should be 255. <Specification> Video color Color temperature (Normal) x=0.285±0.005 y=0.293±0.005

Item	Video Color Temperature Adjustment (Warm)
Applicable Model	All models

Preparation		Procedure	
(1)	Set signal generator output as All White (Window ratio: 100%).	(1)	Perform the following adjustment with the remote control.
(2)	Component signal (480i) Video level : 0.700Vp-p Sync level : 0.300Vp-p Setup level : 0V	(2)	Set the CRT Color Analyzer (CA100) at the center of the panel.
(3)	Check that Picture Menu is set as [RESET] mode.	(3)	Ensure that service adjustment menu (submenu) No. 6, 7, 8 are all set as 255.
(4)	Set into Factory Adjustment mode.	(4)	After receiving the video signal, step down the two (or one) among adjustment No. 6, 7, 8 and adjust the values as shown below. (Note) At least one of the data should be 255. <Specification> Video color Color temperature (Warm) x=0.314±0.005 y=0.327±0.005

Item	Video Color Temperature Adjustment
Applicable Model	All models

Preparation		Procedure	
(1)	Set signal generator output as All White (Window ratio: 100%).	(1)	Perform the following adjustment with the remote control.
(2)	Component signal (480i) Video level : 0.700Vp-p Sync level : 0.300Vp-p Setup level : 0V	(2)	Set the CRT Color Analyzer (CA-100) at the center of the panel.
(3)	Check that Picture Menu is set as [RESET] mode.	(3)	Ensure that service adjustment menu (sub menu) No. 9, 10, 11 are all set as 255.
(4)	Set into Factory Adjustment mode.	(4)	After receiving the video signal, step down the two (or one) among adjustment No. 9, 10, 11 and adjust the values as shown below. (Note) At least one of the data should be 255. <Specification> Video color Color temperature (B&W) x=0.335±0.005 y=0.343±0.005

Item	PC Color Temperature Adjustment
Applicable Model	All models

Preparations		Procedures	
(1)	Perform after the video color temperature adjustment.	(1)	Perform the following adjustment with the remote control
(2)	Set into Factory Adjustmentmode.	(2)	Write the results of the video color temp.adjustment (Dynamic/Normal/Warm/B&W) No. 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23 data into Adjustment No. 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 data. * at service Adjustment sub menu. Ex.) Video adjustment → PC adjustment No.0 data → No.12 data No.1 data → No.13 data No.2 data → No.14 data ⋮ ⋮

7. Troubleshooting

● How to get to Burn-in mode

This mode displays the test patterns of some single color raster in turn. These signals are from built-in generator of PDP panel. So it can be presumed that maybe the panel has some trouble when the screen of Burn-in mode is abnormal.

Using the front control buttons with the set turned off (standby) can activate this mode.

Press the SUB-POWER(⏻) button, INPUT SELECT(⏎) button and VOLUME DOWN(🔉) button at the same time, and hold for more than 5 seconds.

The set turns on with single color raster and the OSD of [BURN IN: ON].

To escape from this mode, press the SUB-POWER(⏻) button, INPUT SELECT(⏎) button and ▲ button at the same time, and hold for more than 5 seconds. Burn-in mode will be released.

● How to recover the remote and front key function

If remote and front key cannot operate after miss set special function by front keys, these functions can recover by below method.

Press the SUB-POWER(⏻) button, INPUT SELECT(⏎) button and ▼ button at the same time, and hold for more than 5 seconds.

The set turns on the service menu mode.

Select No.535 and data set from [0] to [1], and select No.536 and data set from (0) to (1).

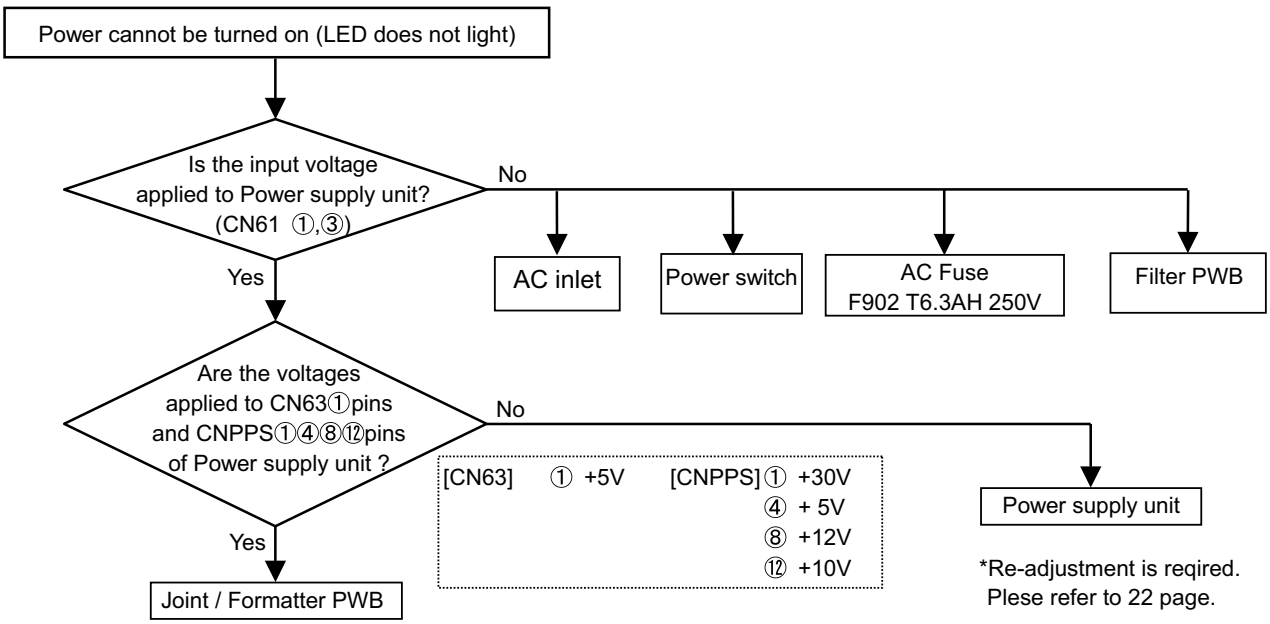
Or

Press the SUB-POWER(⏻) button and 🔊 button at the same time, and hold for more than 5 seconds

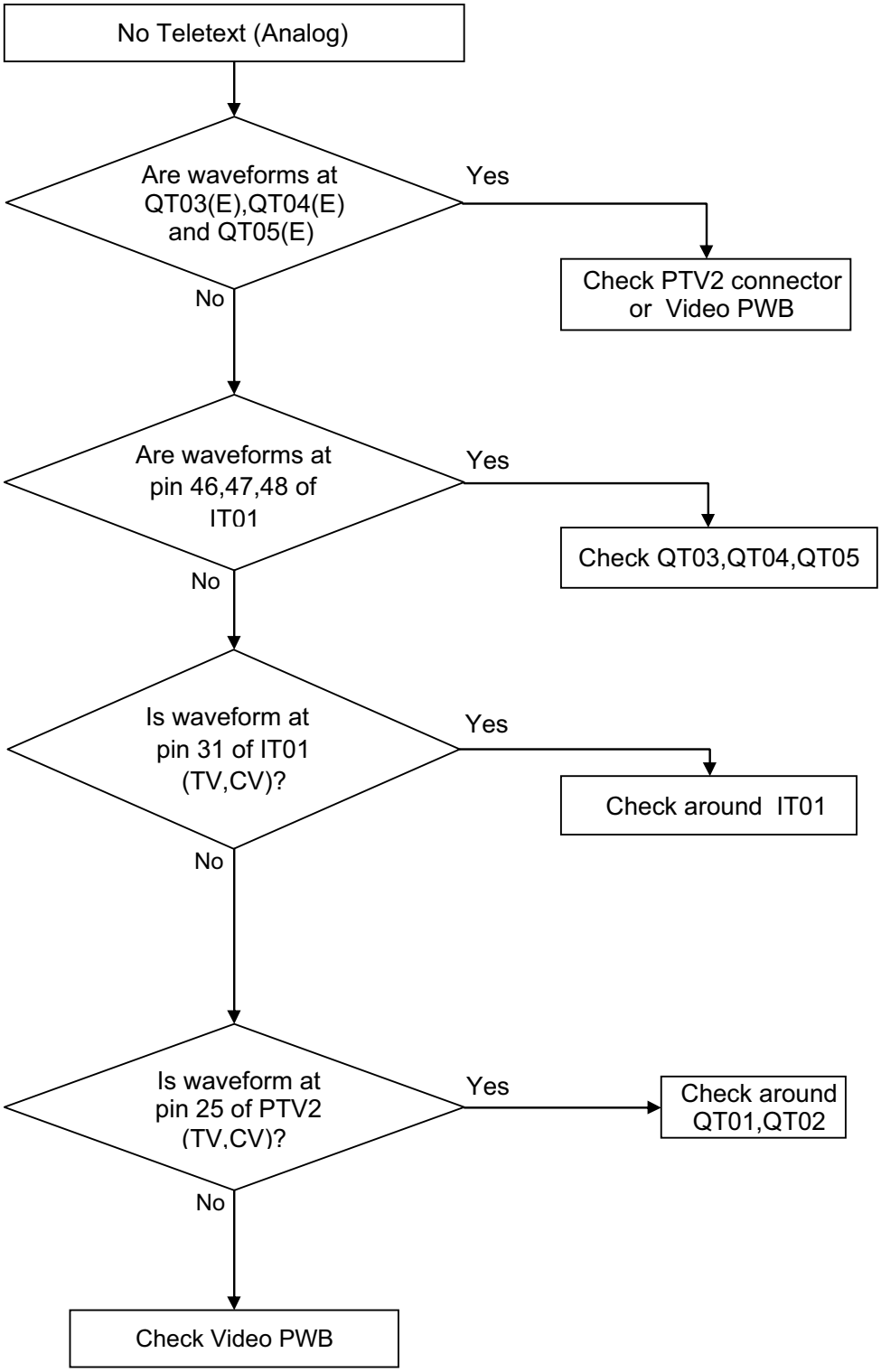
● How to check method of the use accumulation time for panel.

Select No.518 of Service Adjustment Menu.

Power

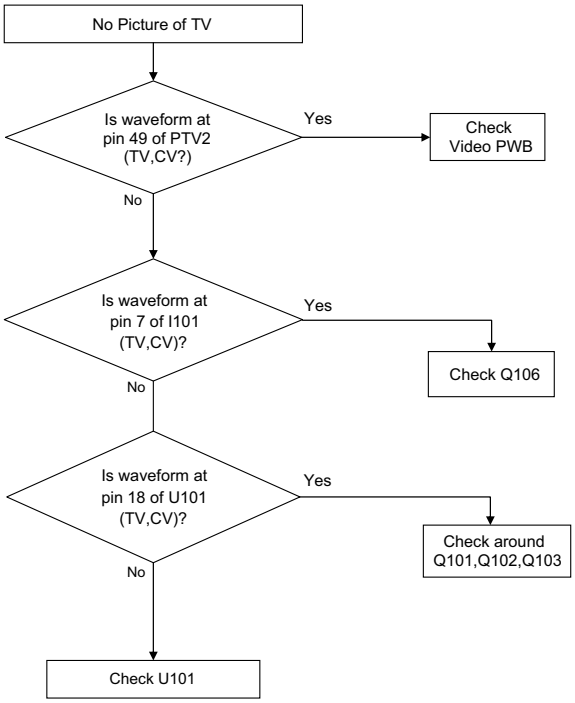

Power cannot be turned on (LED does not light)
Is the input voltage applied to Power supply unit? (CN61 ①,③)
No
AC inlet
Power switch
AC Fuse F902 T6.3AH 250V
Filter PWB
Yes
Are the voltages applied to CN63① pins and CNPPS①④⑧⑫pins of Power supply unit ?
No
[CN63] ① +5V
[CNPPS] ① +30V
④ + 5V
⑧ +12V
⑫ +10V
Power supply unit
*Re-adjustment is reqired.
Plese refer to 22 page.
Yes
Joint / Formatter PWB

Teletext (Analog)
[Tuner PWB Circuit]



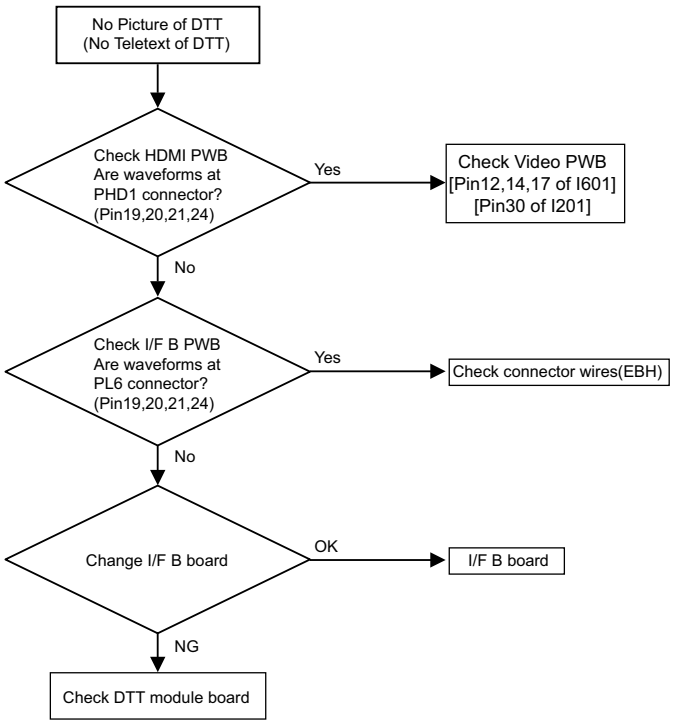
TV Signal

[Tuner PWB Circuit]



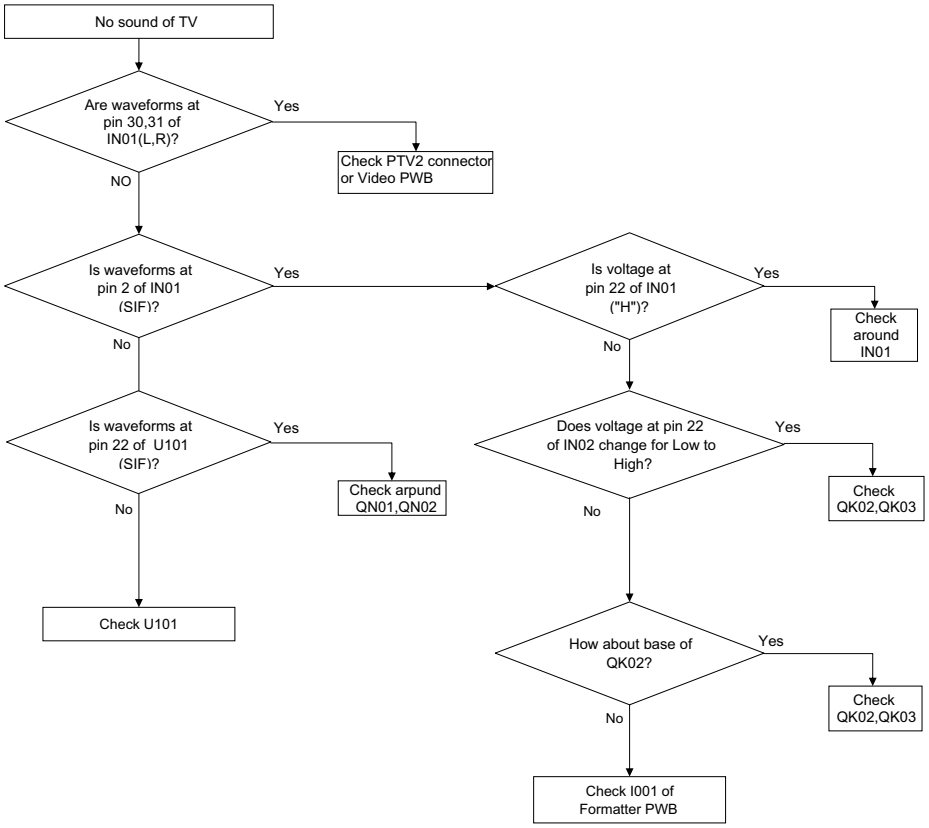
DTT Signal (DTT Teletext)

[I/F B PWB Circuit]



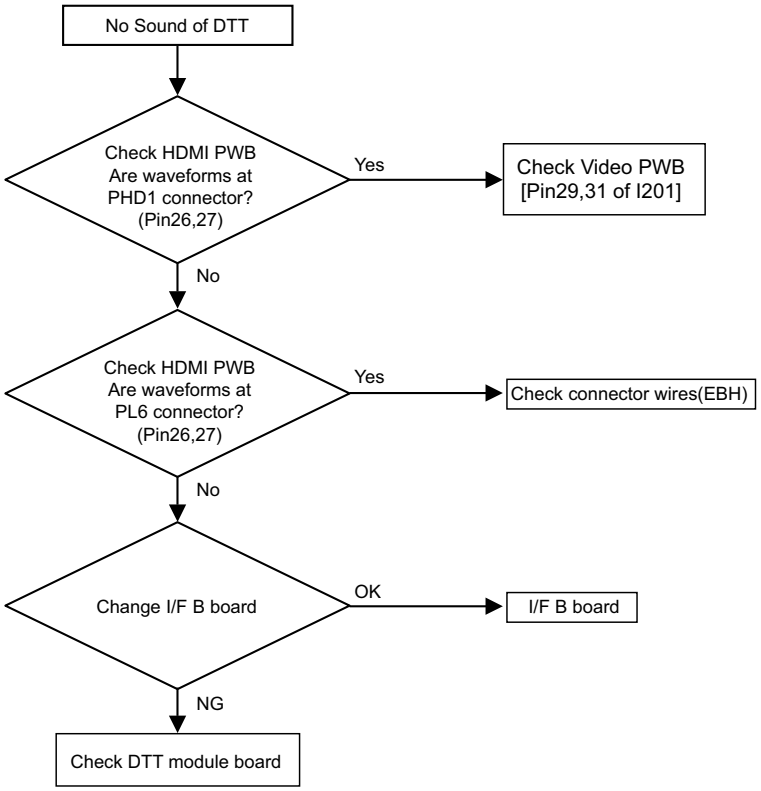
TV Sound

[Tuner PWB Circuit]



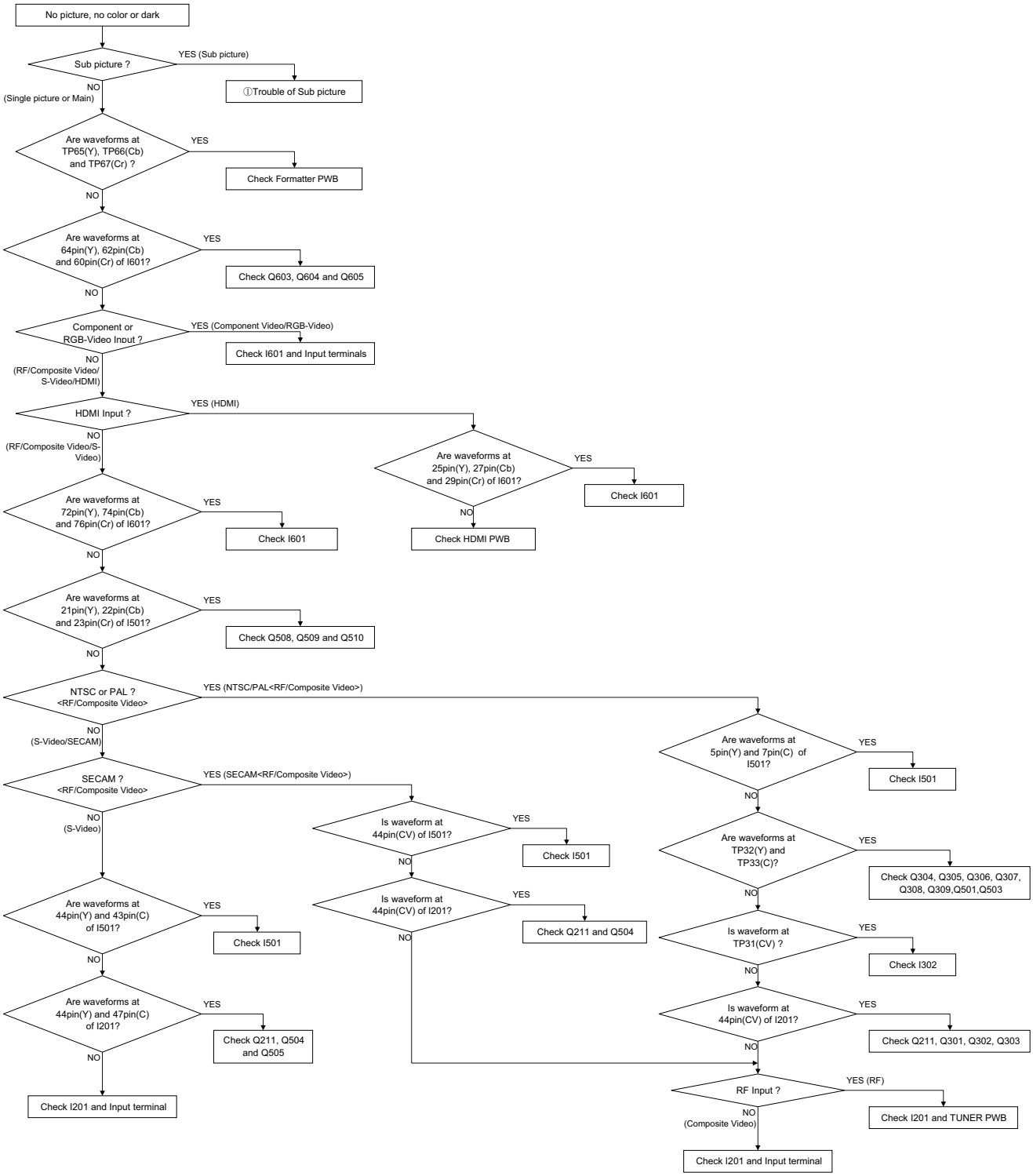
DTT Sound

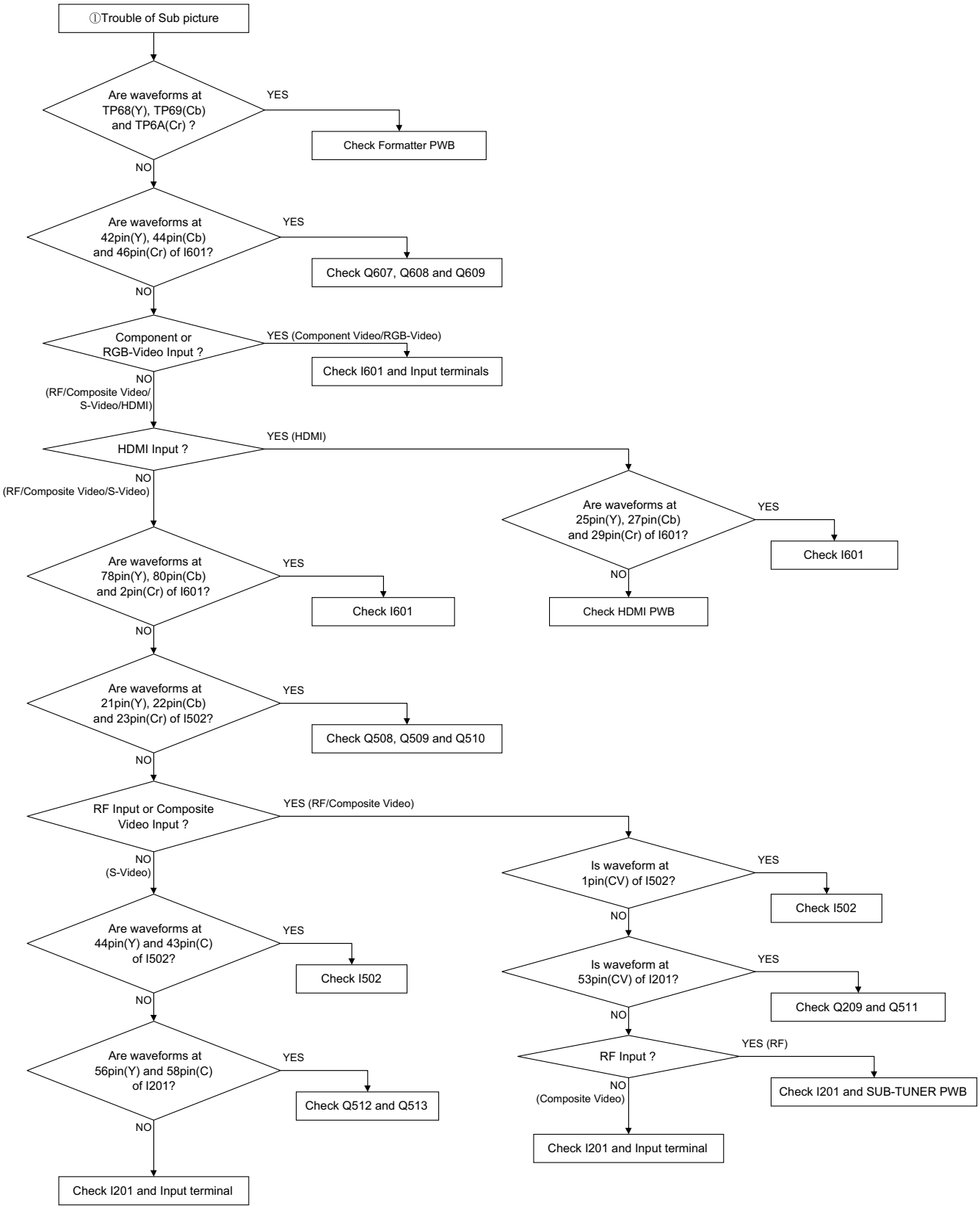
[I/F B PWB Circuit]



Picture

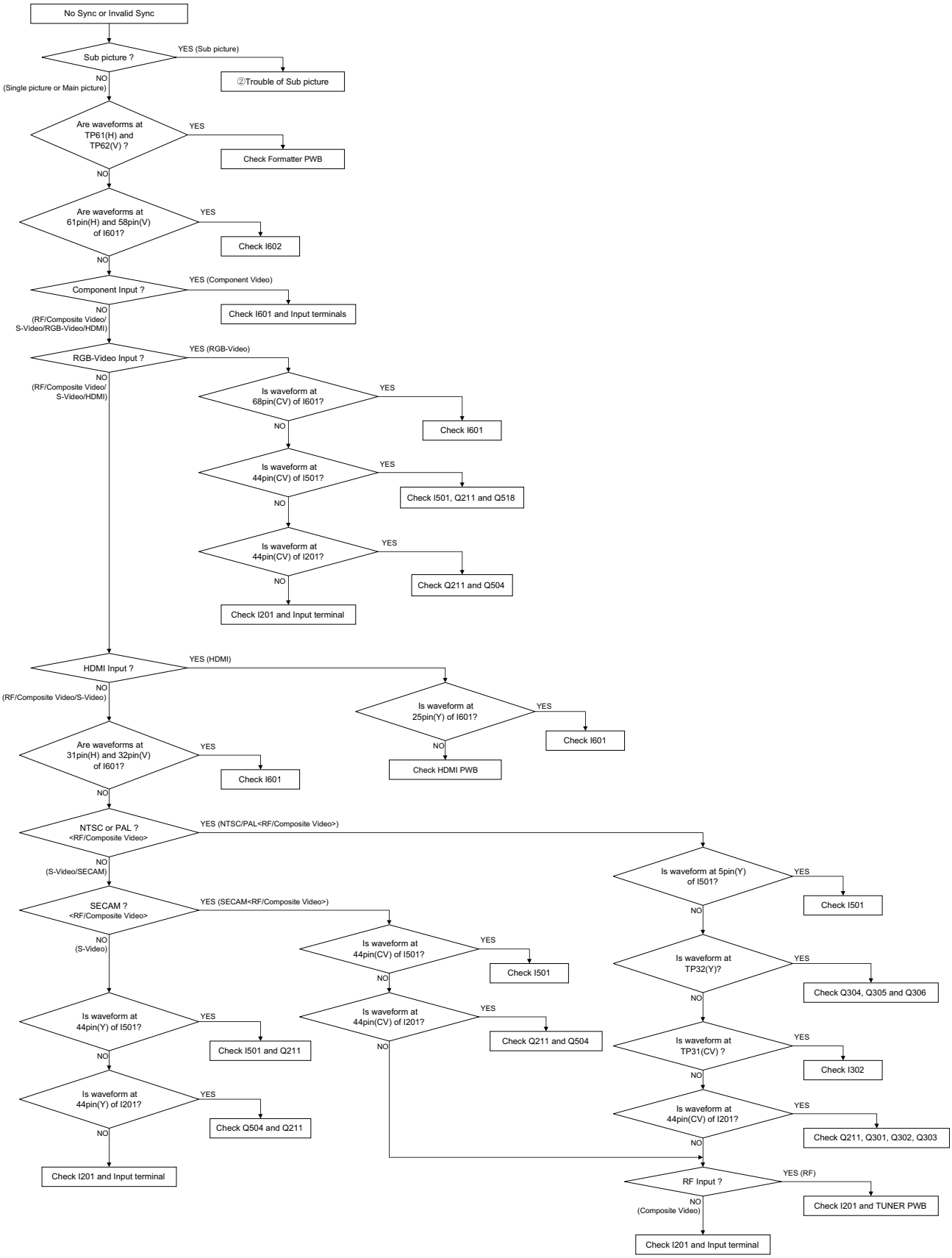
[Video PWB Circuit]

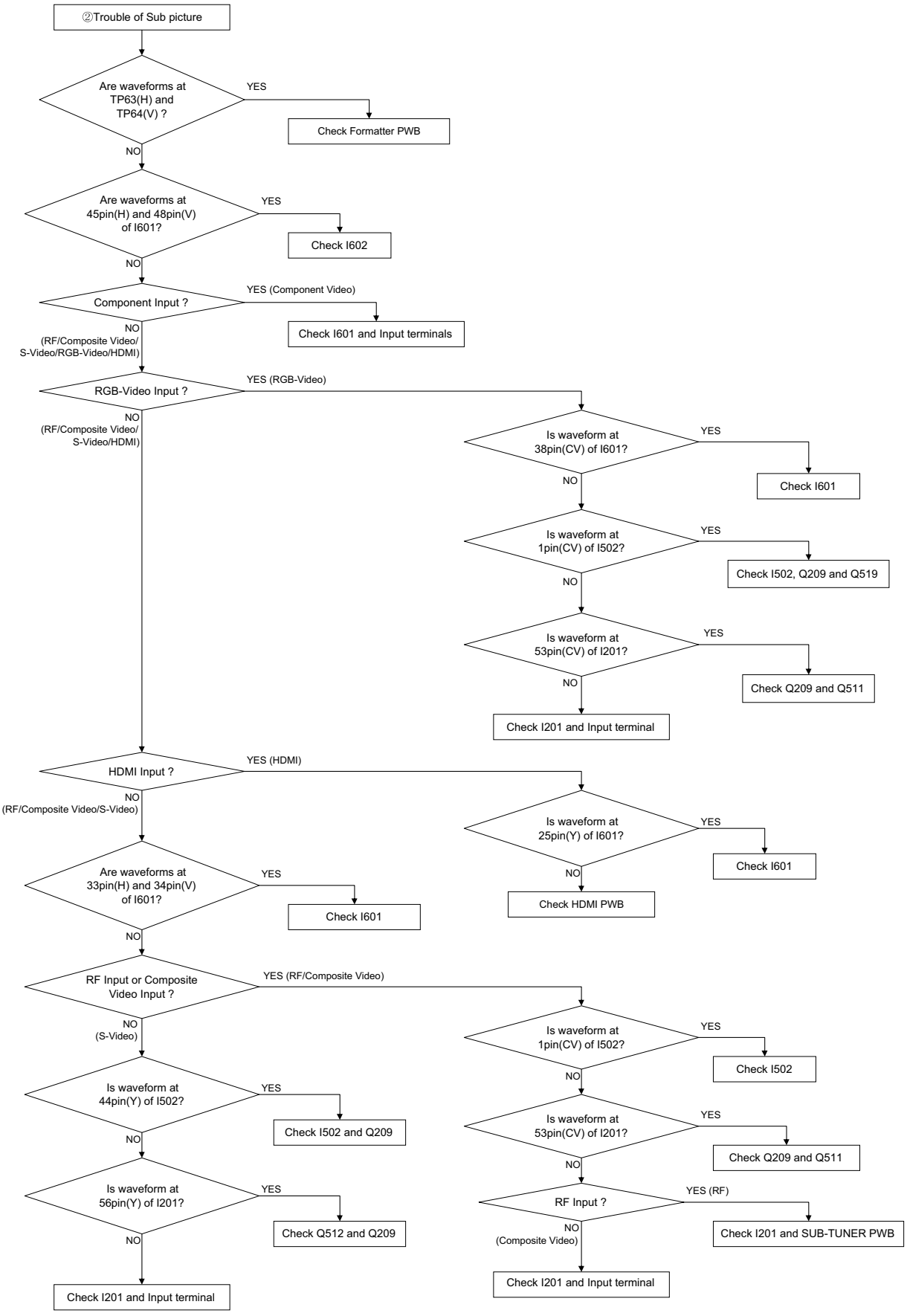



①Trouble of Sub picture
Are waveforms at TP68(Y), TP69(Cb) and TP6A(Cr) ?
YES
Check Formatter PWB
NO
Are waveforms at 42pin(Y), 44pin(Cb) and 46pin(Cr) of I601?
YES
Check Q607, Q608 and Q609
NO
Component or RGB-Video Input ?
YES (Component Video/RGB-Video)
Check I601 and Input terminals
NO (RF/Composite Video/ S-Video/HDMI)
HDMI Input ?
YES (HDMI)
NO (RF/Composite Video/S-Video)
Are waveforms at 25pin(Y), 27pin(Cb) and 29pin(Cr) of I601?
YES
Check I601
NO
Check HDMI PWB
Are waveforms at 78pin(Y), 80pin(Cb) and 2pin(Cr) of I601?
YES
Check I601
NO
Are waveforms at 21pin(Y), 22pin(Cb) and 23pin(Cr) of I502?
YES
Check Q508, Q509 and Q510
NO
RF Input or Composite Video Input ?
YES (RF/Composite Video)
NO (S-Video)
Is waveform at 1pin(CV) of I502?
YES
Check I502
NO
Are waveforms at 44pin(Y) and 43pin(C) of I502?
YES
Check I502
NO
Is waveform at 53pin(CV) of I201?
YES
Check Q209 and Q511
NO
Are waveforms at 56pin(Y) and 58pin(C) of I201?
YES
Check Q512 and Q513
NO
RF Input ?
YES (RF)
Check I201 and SUB-TUNER PWB
NO (Composite Video)
Check I201 and Input terminal
Check I201 and Input terminal

Synchronization

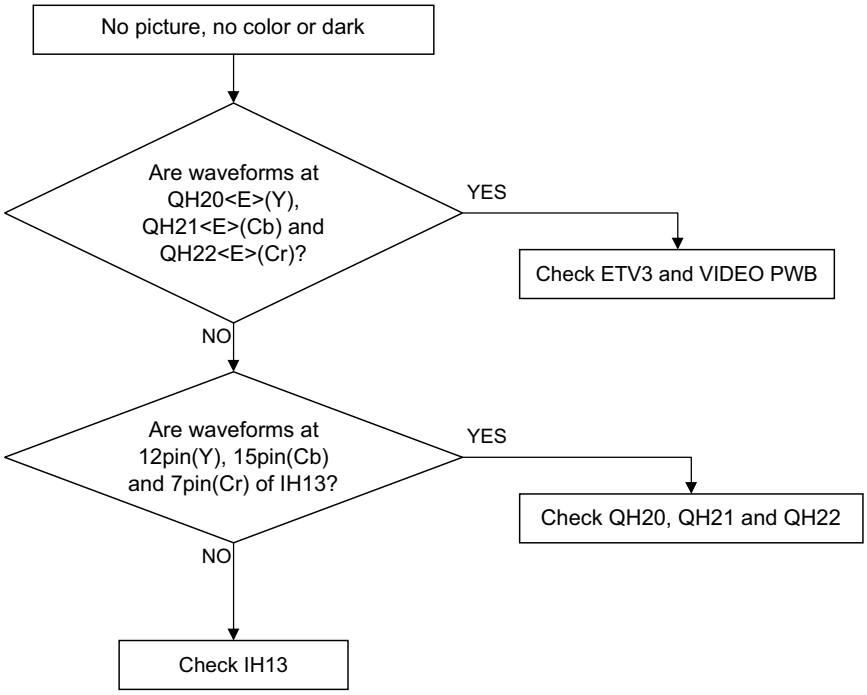
[Video PWB Circuit]

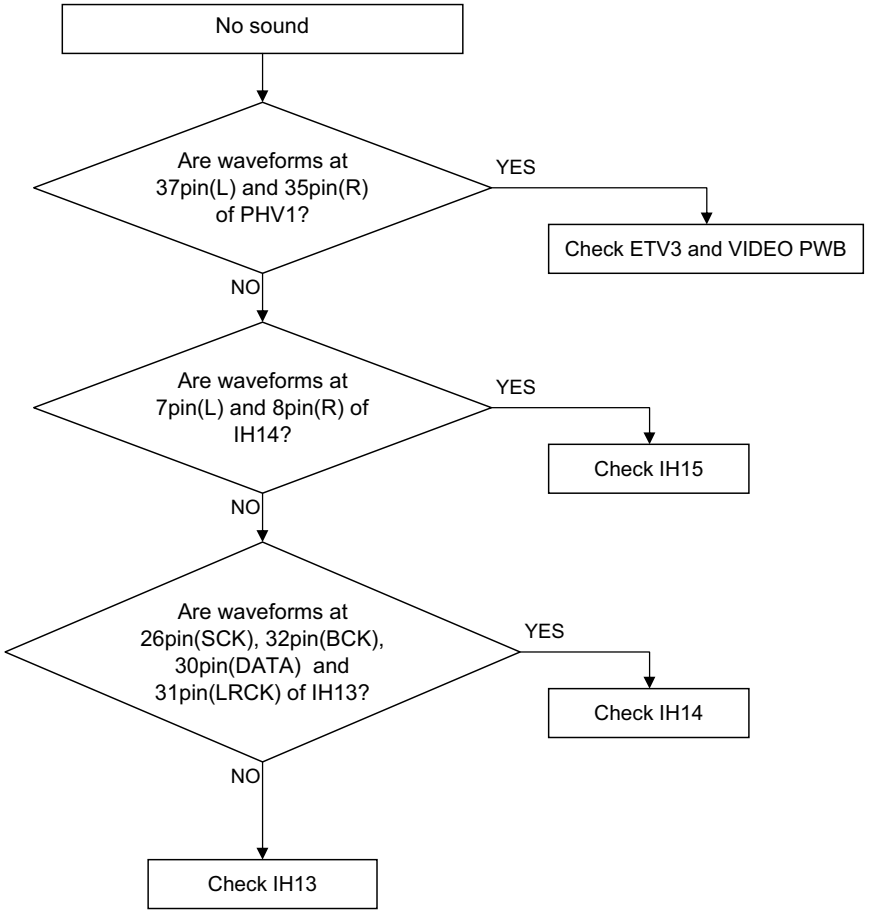



②Trouble of Sub picture
Are waveforms at TP63(H) and TP64(V) ?
YES
Check Formatter PWB
NO
Are waveforms at 45pin(H) and 48pin(V) of I601?
YES
Check I602
NO
Component Input ?
YES (Component Video)
Check I601 and Input terminals
NO (RF/Composite Video/ S-Video/RGB-Video/HDMI)
RGB-Video Input ?
YES (RGB-Video)
NO (RF/Composite Video/ S-Video/HDMI)
Is waveform at 38pin(CV) of I601?
YES
Check I601
NO
Is waveform at 1pin(CV) of I502?
YES
Check I502, Q209 and Q519
NO
Is waveform at 53pin(CV) of I201?
YES
Check Q209 and Q511
NO
Check I201 and Input terminal
HDMI Input ?
YES (HDMI)
NO (RF/Composite Video/S-Video)
Is waveform at 25pin(Y) of I601?
YES
Check I601
NO
Check HDMI PWB
Are waveforms at 33pin(H) and 34pin(V) of I601?
YES
Check I601
NO
RF Input or Composite Video Input ?
YES (RF/Composite Video)
NO (S-Video)
Is waveform at 1pin(CV) of I502?
YES
Check I502
NO
Is waveform at 44pin(Y) of I502?
YES
Check I502 and Q209
NO
Is waveform at 53pin(CV) of I201?
YES
Check Q209 and Q511
NO
Is waveform at 56pin(Y) of I201?
YES
Check Q512 and Q209
NO
RF Input ?
YES (RF)
NO (Composite Video)
Check I201 and SUB-TUNER PWB
Check I201 and Input terminal
Check I201 and Input terminal

HDMI

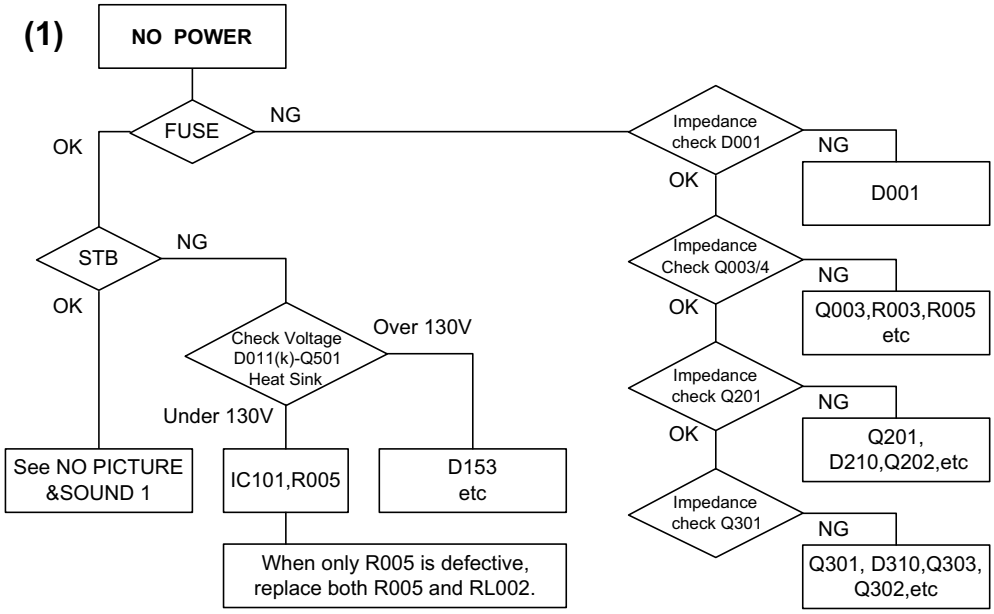
[HDMI PWB Circuit]

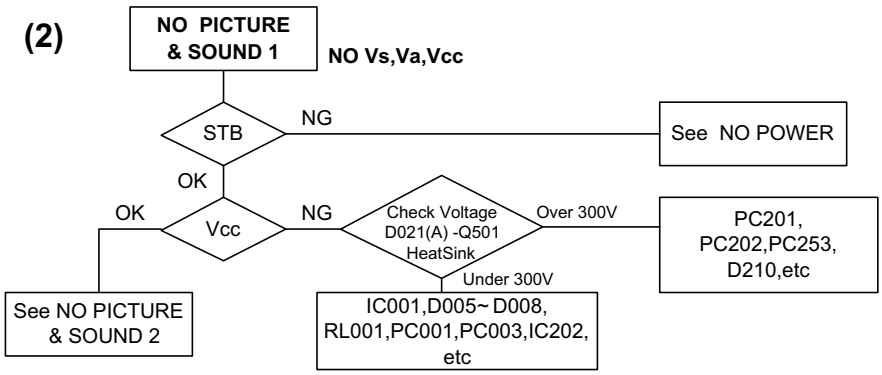


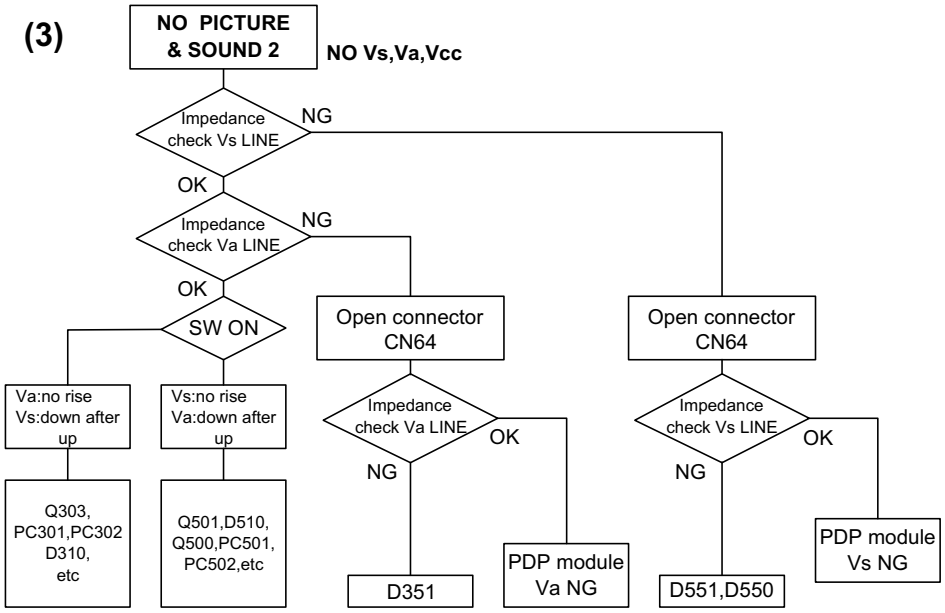


PSU

[PSU PWB Circuit]







Vcc LINE is down when Vs,Va LINE is down.

8. Self-Diagnosis Function

This chassis has 2 modes of self-diagnosis function.

(1) PDP panel check mode: It indicates the one latest record of the PDP panel failure with blinking of the power indication light (LED).

(2) Signal circuit check mode: It indicates the check result on some points of the signal circuit and the history of them with On-Screen Display (OSD).

● PDP panel self-diagnosis function

This function is for a PDP panel failure with no picture.

To enter to this Self-Diagnosis mode, follow the next steps:

Preparation:

1) The Power Cord should be connected to AC line and the Main Power switch should be turned on.

2) Turn the power off by the SUB-POWER(⏻) button of the monitor or the remote control.

Procedure:

1) Press the SUB-POWER(⏻) button and ▼ button on the bottom of the monitor at the same time, and keep it for more than 5 seconds after the power turned on.

2) It generates red blinking series of the power indicator light.

3) Any operation would cancel the Self -Diagnosis mode.

4) The next table shows the PDP PWB in which failure most probably would be allocated according to the number of blinks.

Number of red blinks of power indication light	Presumed failing PWB of PDP panel
1	Logic
2	X-SUS
3	Y-SUS, SDM
4	X-SUS, Y-SUS, SDM, PSU
5	ABUS, ADM, PSU
6	ADM temperature
7	ADM temperature
8	All of above-mentioned PWB's

SDM: Scan Driver Module

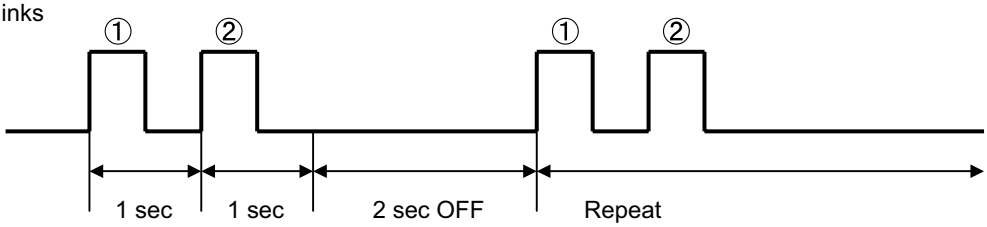
PSU: Power Supply Unit

ADM: Address Driver Module

Note) SDM is permanently contacted to glass part

[Blinking condition of power indication light]

Ex. 2 blinks



● Signal circuit self-diagnosis function

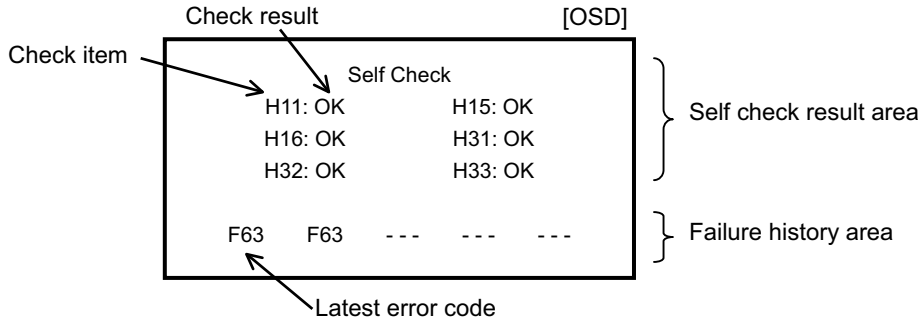
This function is for the failure of the signal circuit, for example the phenomenon as below:
"Sometimes power turns off abnormally." "Sometimes picture disappears abnormally."
To enter to this Self-Diagnosis mode, follow the next steps:

Preparation:

1) The Power Cord should be connected to AC line and the Main Power switch should be turned on.
2) Turn the power off by the SUB-POWER(⏻) button of the monitor or the remote control.

Procedure:

1) Press the SUB-POWER(⏻) button and ▲ button on the bottom of the monitor at the same time, and keep it for more than 5 seconds after the power turned on.
2) The monitor will be turned on, and it will display On-Screen Display of the Self-check result and the failure history as below.
3) Any operation would cancel the Self -Diagnosis mode.
4) The following table shows the OSD symbols and contents of failure PWB in which failure most probably would be allocated according to the number of blinks.



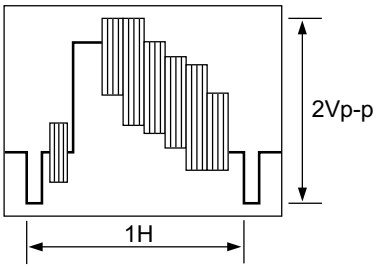
Code	stored up in failure history	Self checking item	Problem	Phenomenon	Cause
C10	–	–	No sync. (Snow noise)	OSD of " ! Check Antenna " appears.	No connection of ANT cable Preset tuning is not yet
H11	–	○	Tuner problem	Cannot receive the main signal from antenna	Communication error of U101
H15	–	○	Composite video SW IC problem	Cannot receive picture and audio Cannot change input mode	Communication error of I201
H16	–	○	Component video SW IC problem	No component picture Cannot change input mode	Communication error of I202
H31	–	○	Color demodulator IC problem	Abnormal color Dark picture	Communication error of I501
H32	–	○	Sync. separator IC problem	Unsynchronized picture	Communication error of I601
H33	–	○	3D Y/C separator IC problem	Abnormal color Dark picture / No picture	Communication error of I302
F63	○	–	I^2C-bus latch problem	Cannot store setting data (Ex. Channel, Volume etc.)	SCL3/SDA3 latched up

If you clear history of failure, make FACTORY RESET: enter the factory setting mode; press the SUB-POWER(⏻) button, INPUT SELECT(⇨) button and ▲ button on the bottom of the monitor at the same time. And keep it for more than 5 seconds after the power turned on.

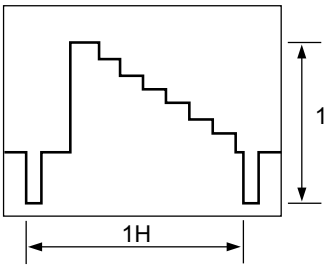
9. Basic circuit diagram

● Waveform

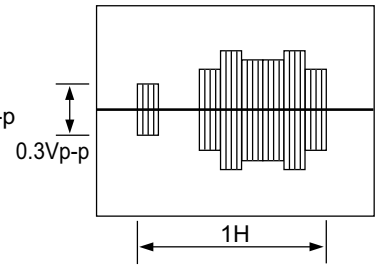
① I201(MAIN.V)(44) PIN
② I201(SUB.V)(53) PIN



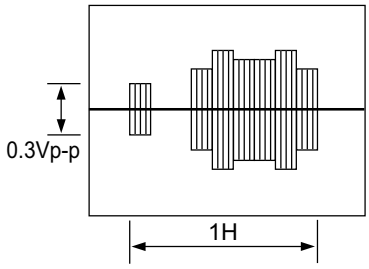
③ I501 YIN(S-VIDEO)(44) PIN
④ I501 YIN(Comb)(5) PIN



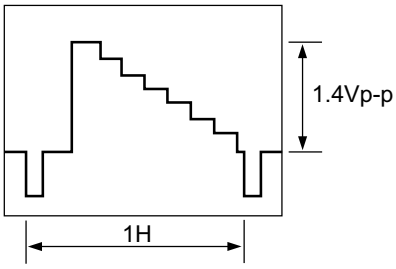
⑤ I501 CIN(S-VIDEO)(43) PIN



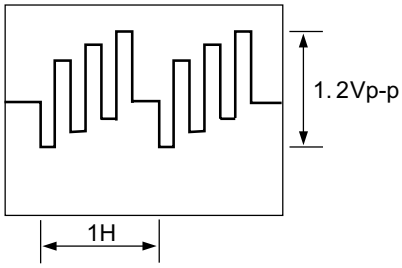
⑥ I501 CIN(Comb)(7) PIN



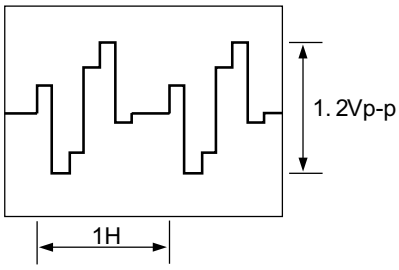
⑦ TP65(MY)
⑧ TP68(SY)



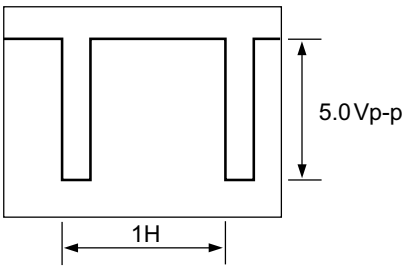
⑨ TP66(MPB)
⑩ TP69(SPB)



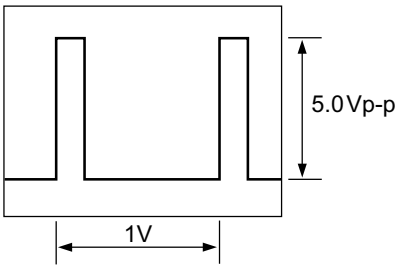
⑪ TP67(MPR)
⑫ TP6A(SPR)



⑬ TP61(MH)
⑭ TP63(SH)

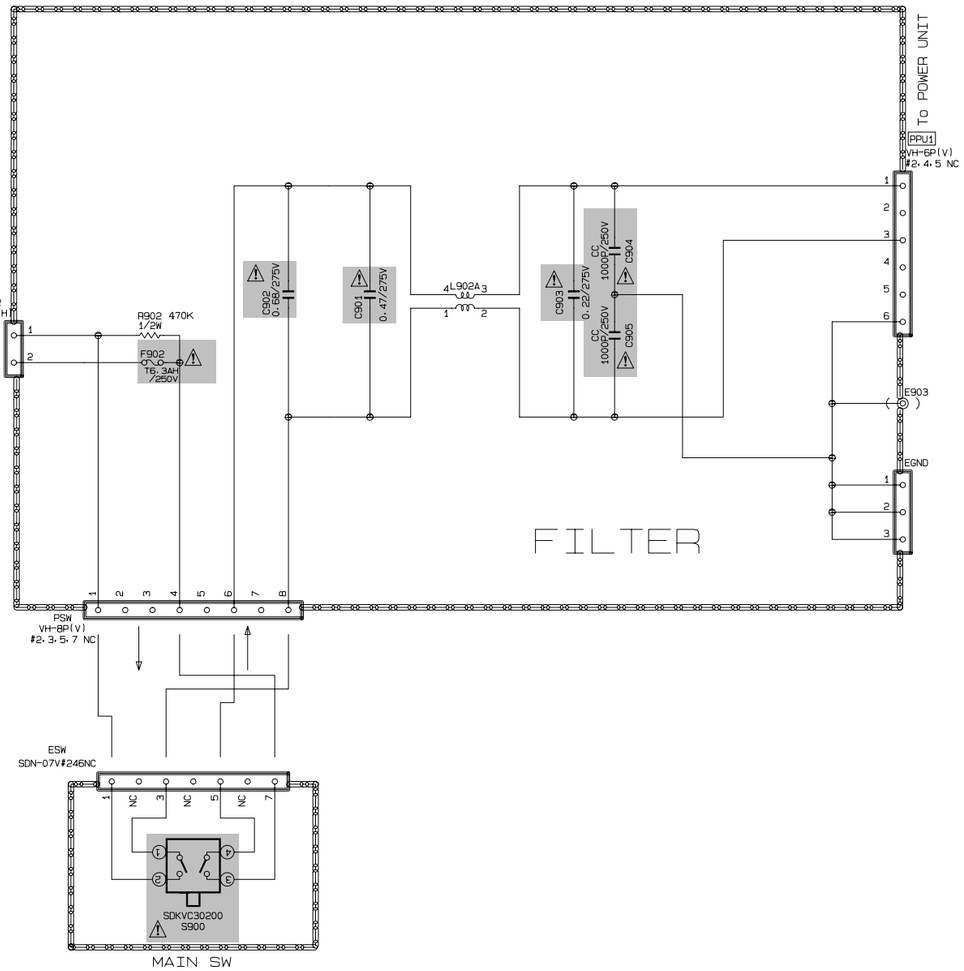


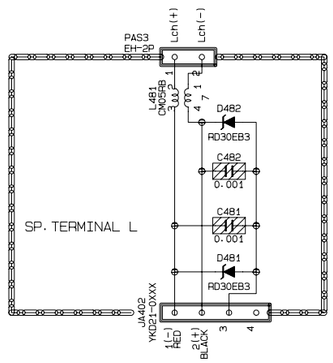
⑮ TP62(MV)
⑯ TP64(SV)

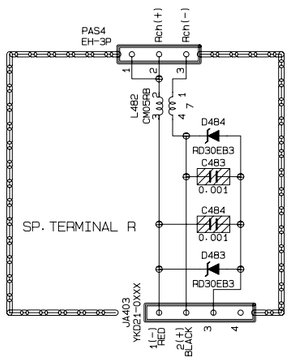


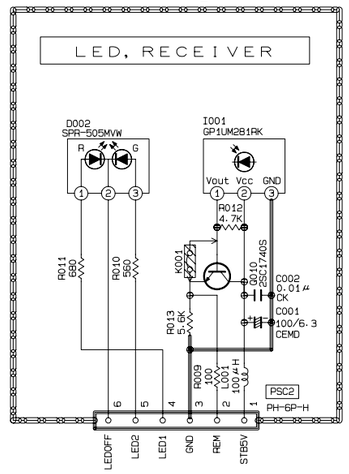
Basic circuit diagram list

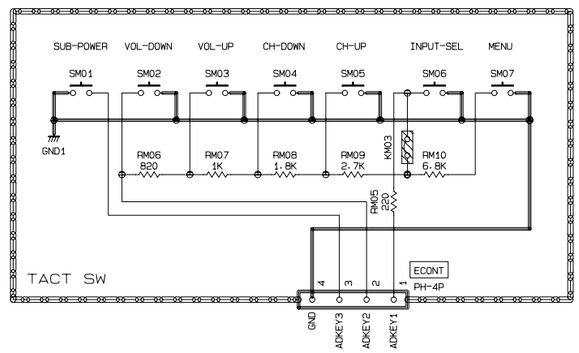
9. Basic circuit diagram











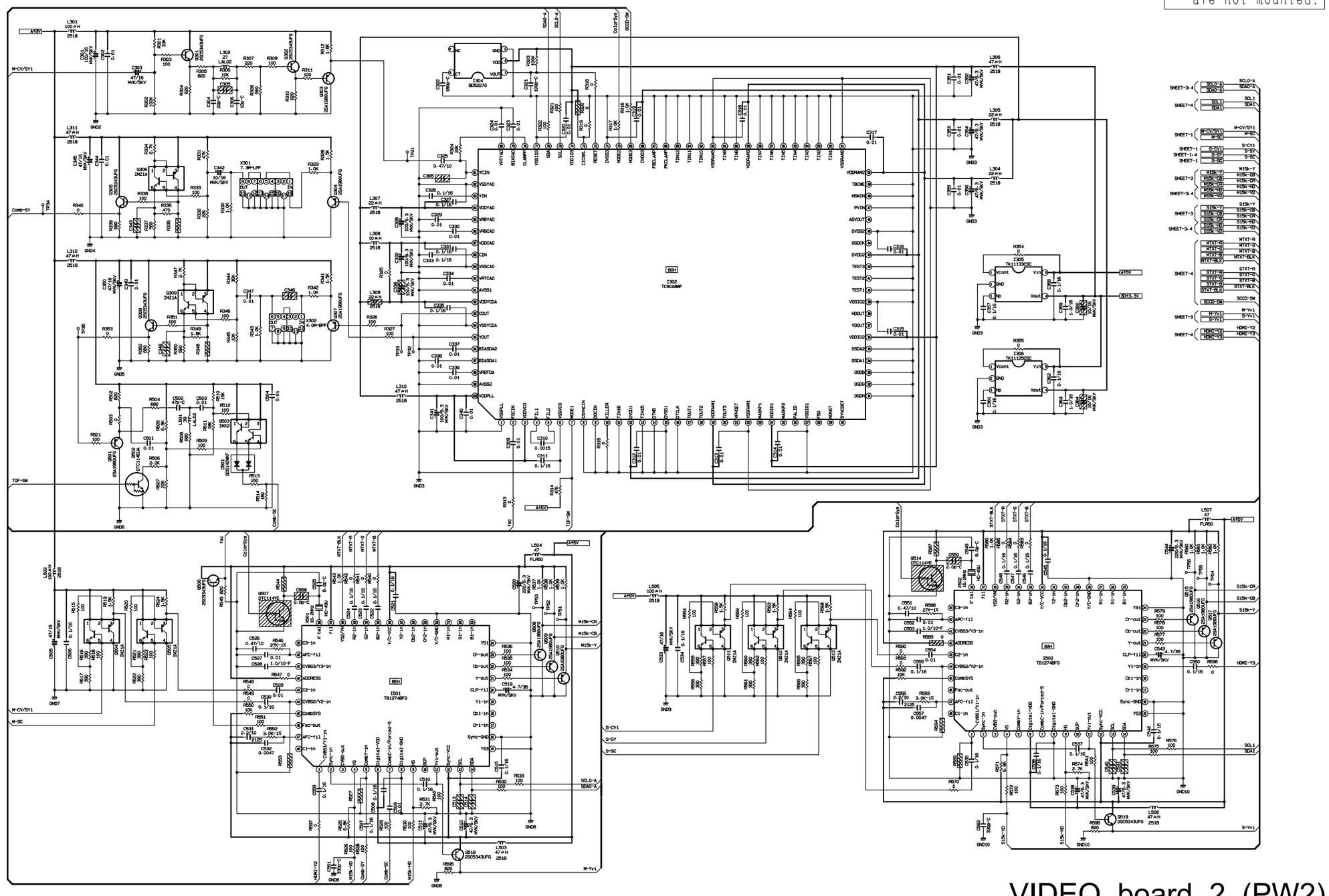
Parts with hatching are not mounted.

PWB assembly
FILTER / TACT SW / LED RECEIVER /
SP TERMINAL L / SP TERMINAL R
(PW2)

Parts with hatching are not mounted.

VIDEO board 1 (PW2)

Parts with hatching are not mounted.

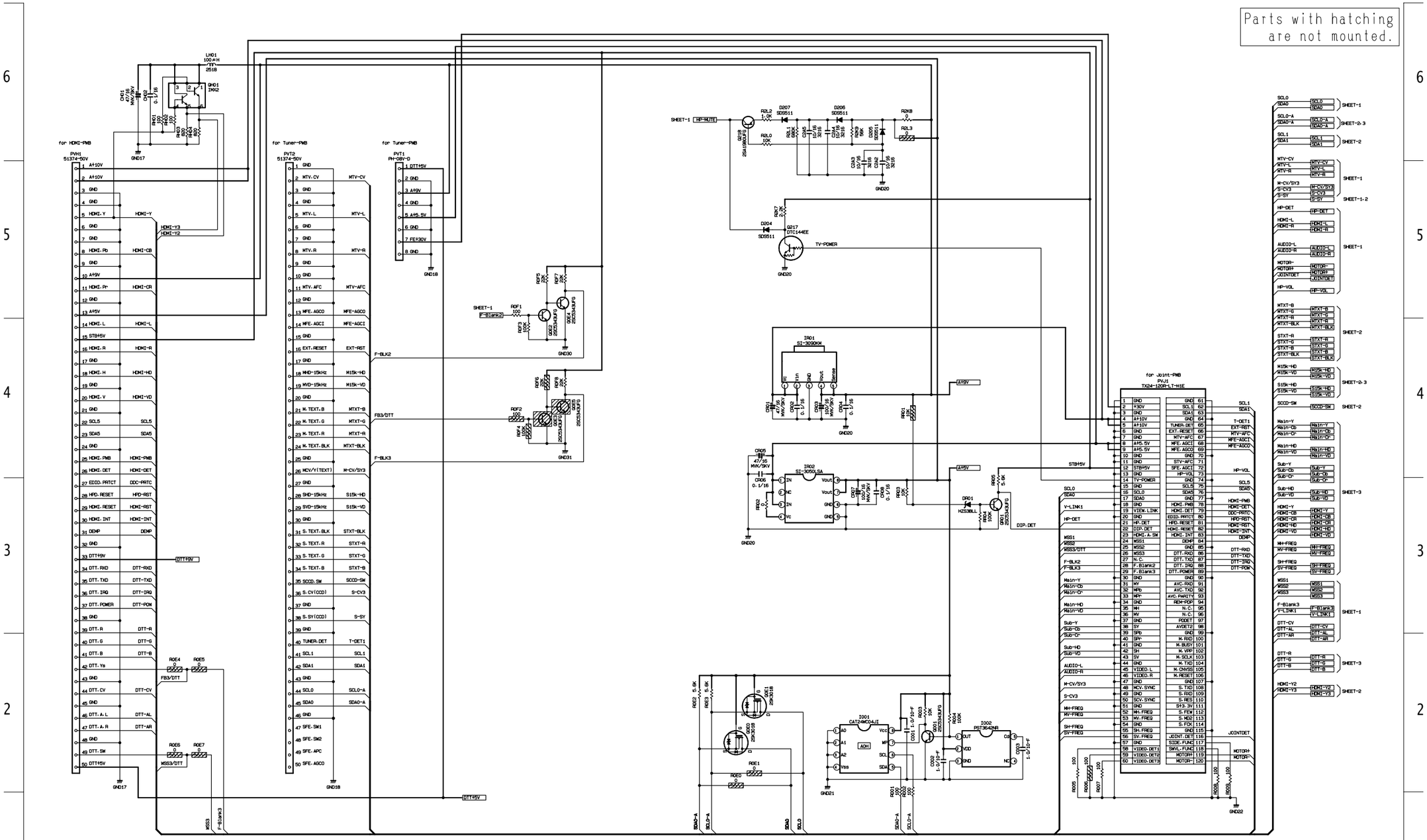


VIDEO board 2 (PW2)

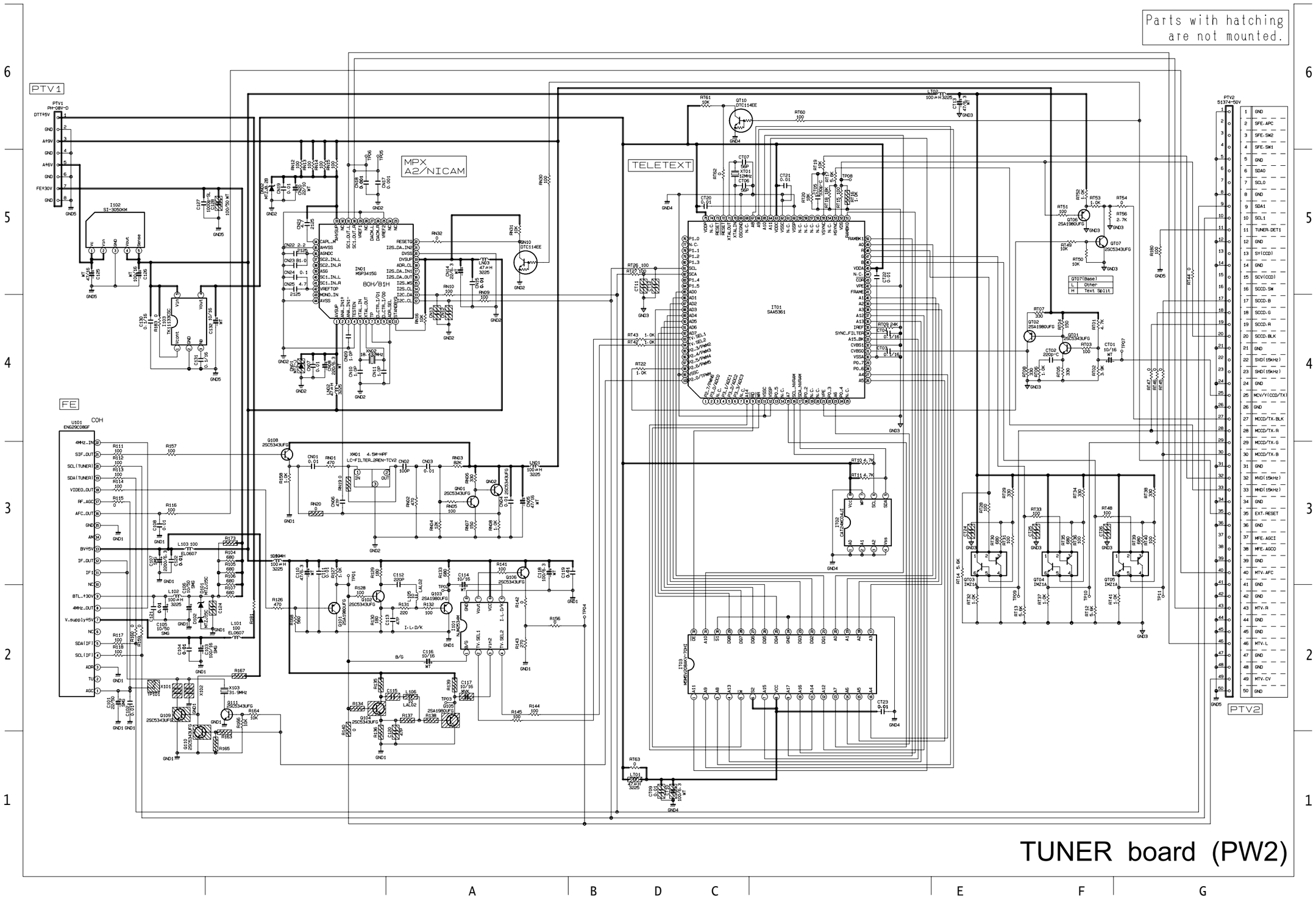
Parts with hatching are not mounted.

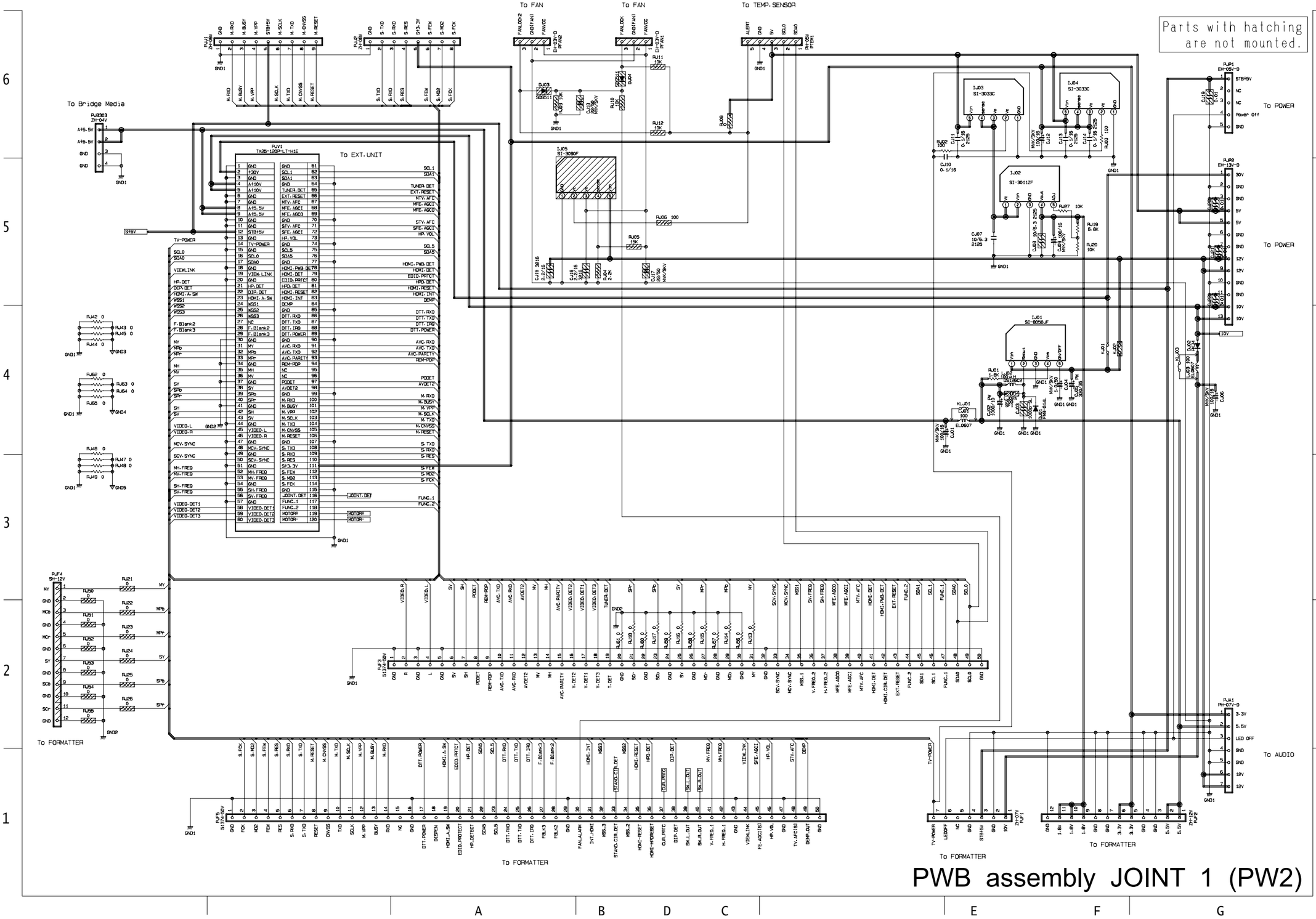
VIDEO board 3 (PW2)

Parts with hatching are not mounted.

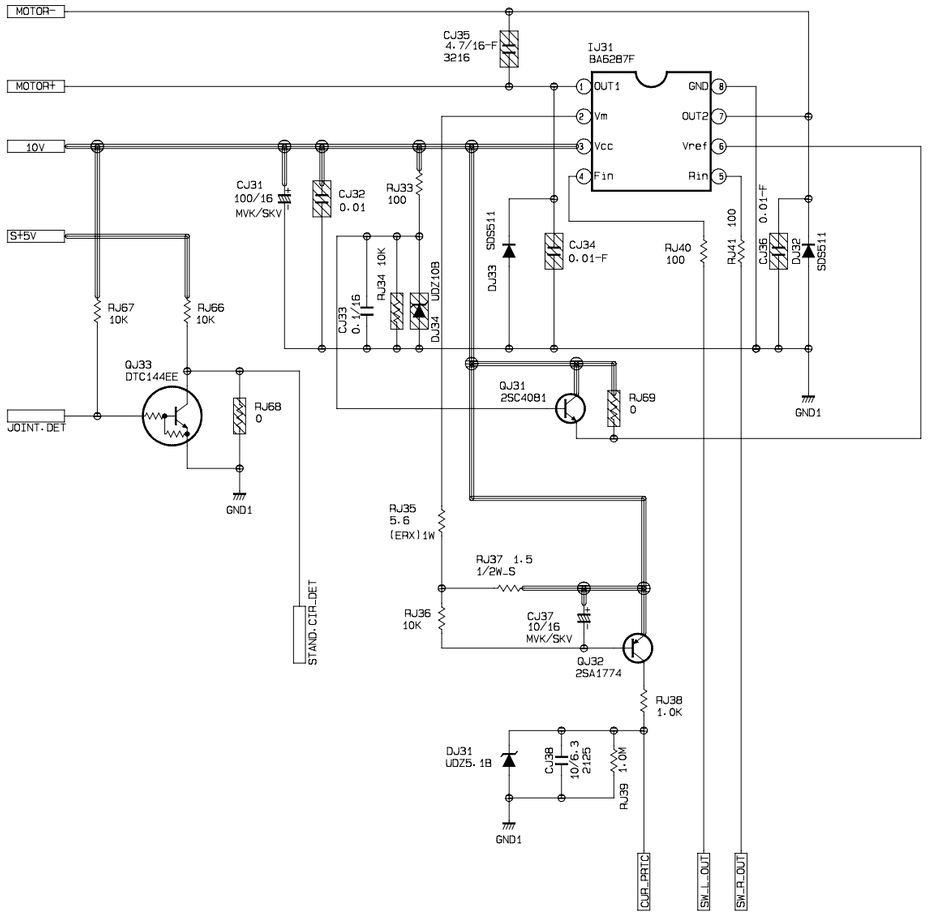


VIDEO board 4 (PW2)


Parts with hatching are not mounted.
PTV1
MPX A2/NICAM
TELETEXT
FE
PTV2
TUNER board (PW2)


Parts with hatching are not mounted.
To Bridge Media
To EXT.UNIT
To FAN
To FAN
To TEMP.SENSOR
To POWER
To POWER
To POWER
To AUDIO
To FORMATTER
To FORMATTER
To FORMATTER
To FORMATTER
PWB assembly JOINT 1 (PW2)

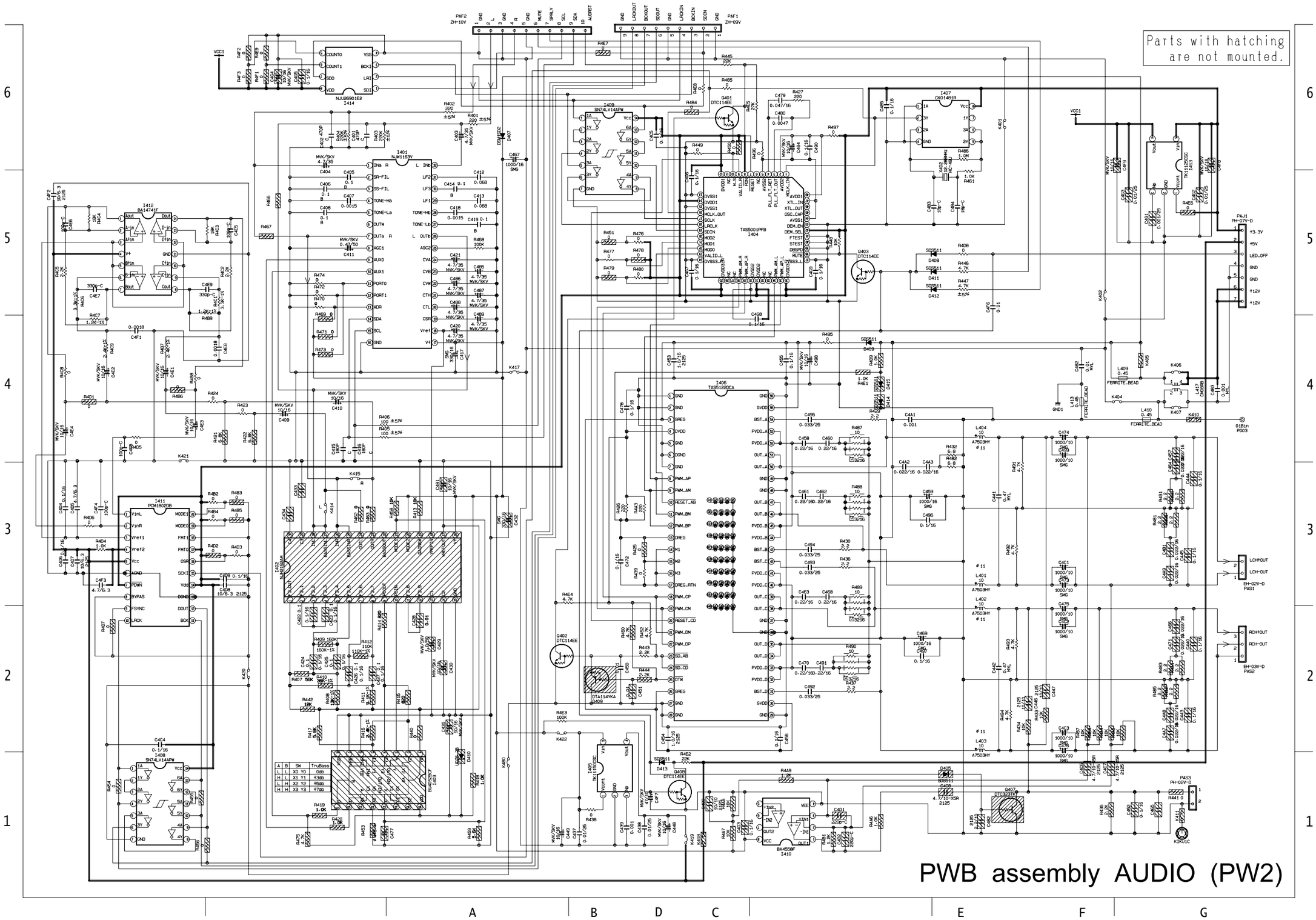
Parts with hatching are not mounted.



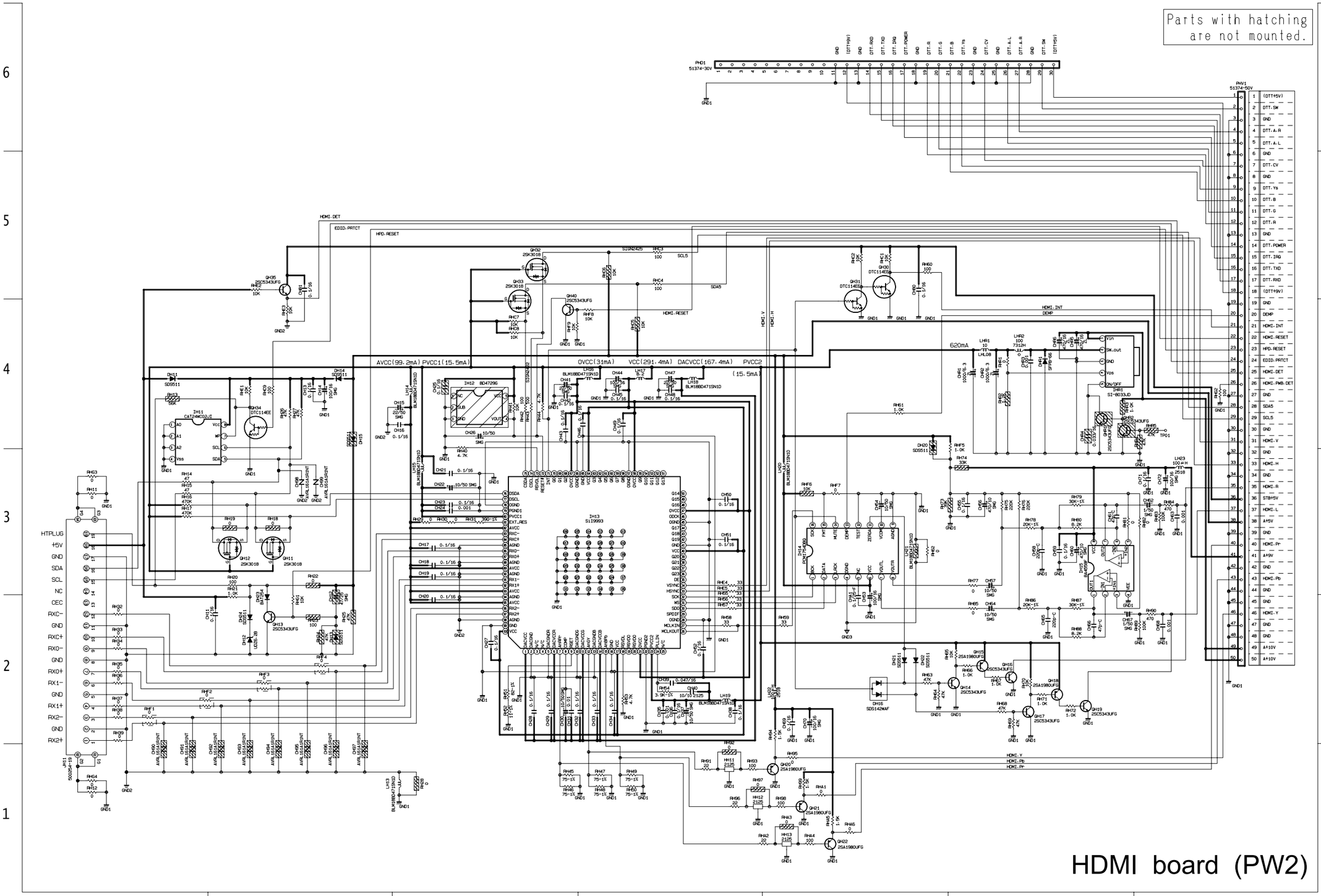
IJ31

FIN/IN1	RIN/IN2
L	H
H	L
H	H
L	L

PWB assembly JOINT 2 (PW2)


Parts with hatching are not mounted.
PWB assembly AUDIO (PW2)

Parts with hatching are not mounted.



A B D C E F G

I/F A board (PW2)

I/F B board (PW2)

IC4 will be LD29300 3.3V

SOGUTUCU BOLGE KONULMALI

0.22R 1/2W CF OLACAKJ TOL

150R OLDU

220UH+ CERESI BOS OLACAK!

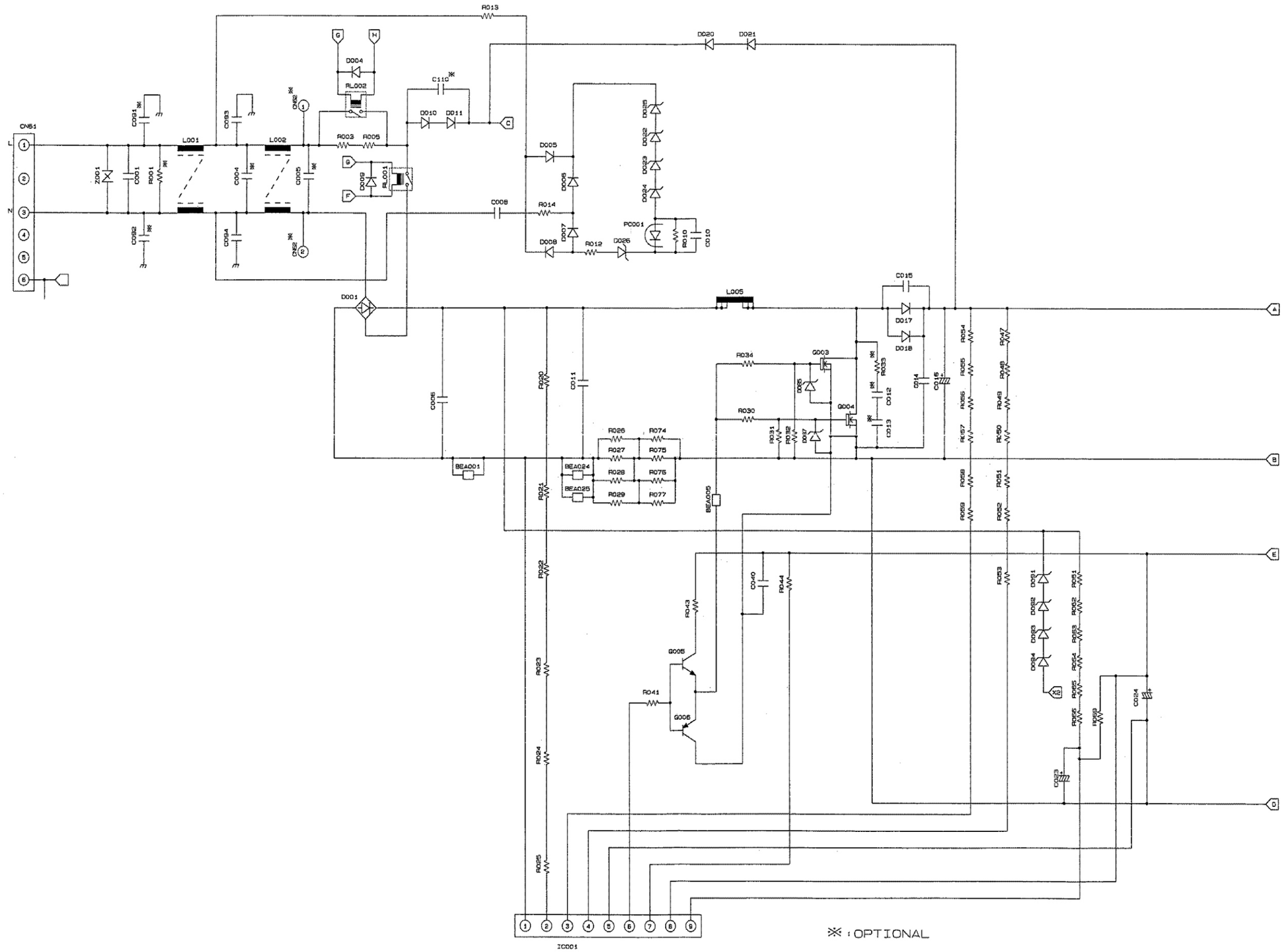
SOGUTUCU BOLGE KONULMALI

L17 330uH olacak!!

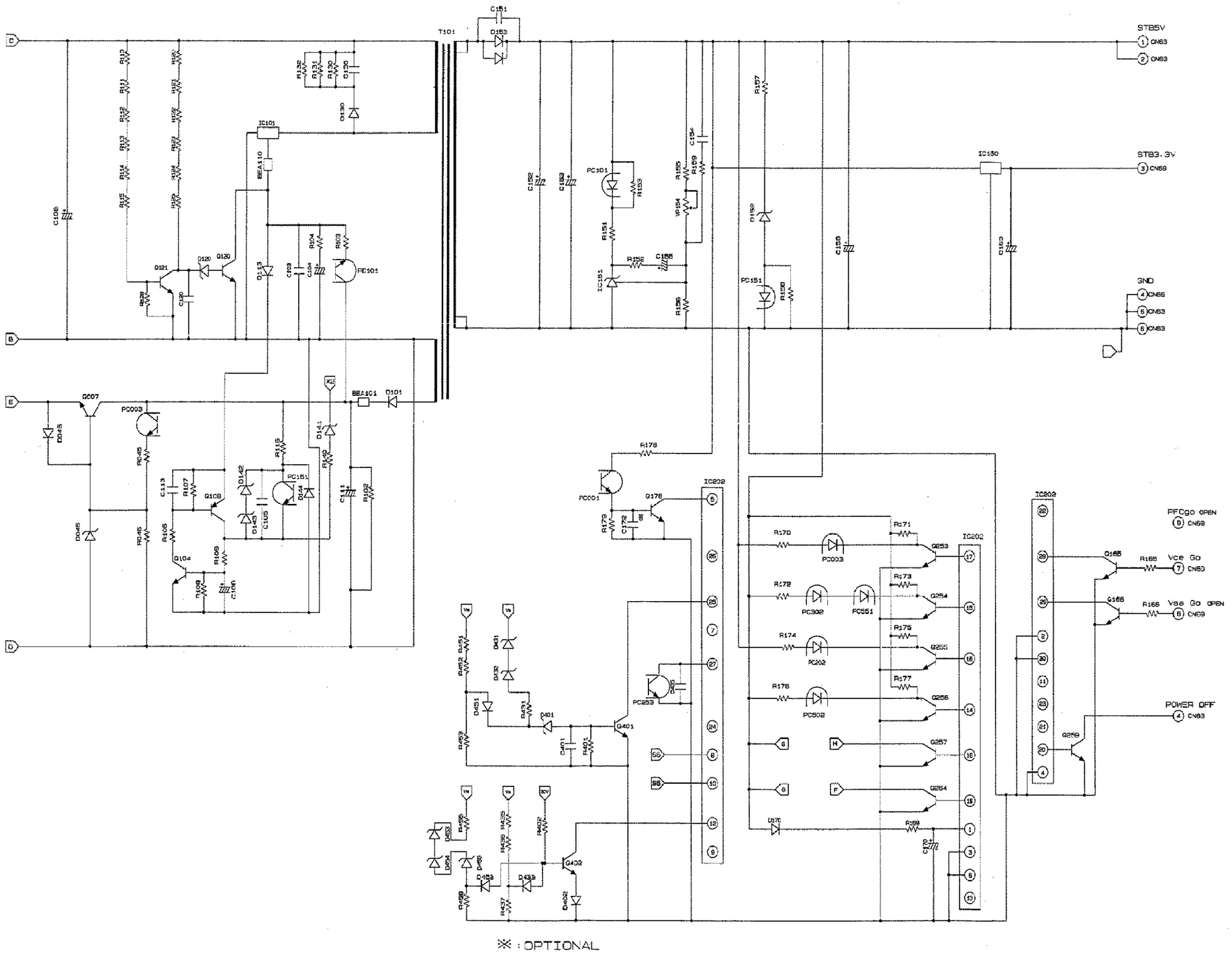
R17 and R19 Not Connected

RGB and CVBS

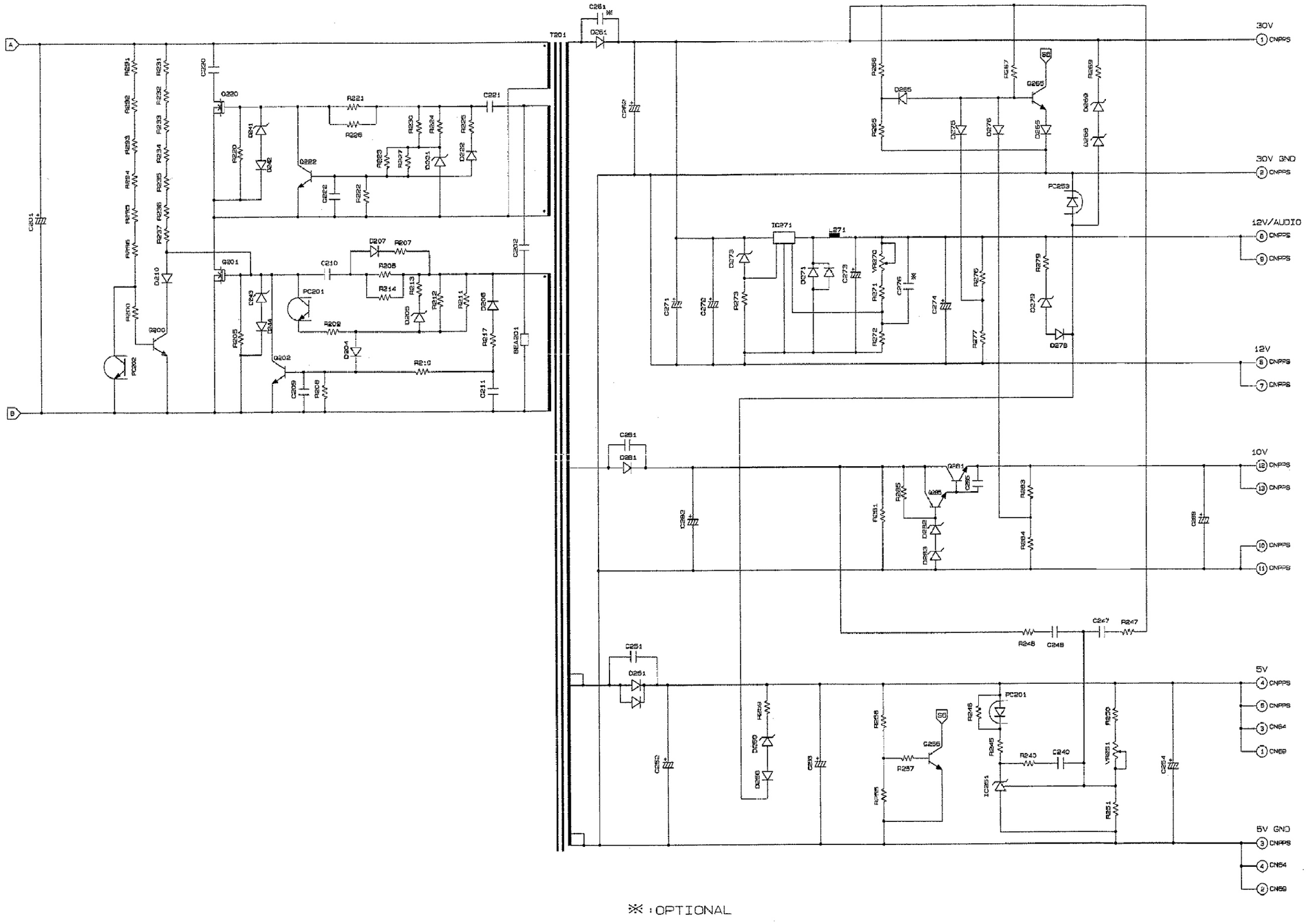
AUDIO



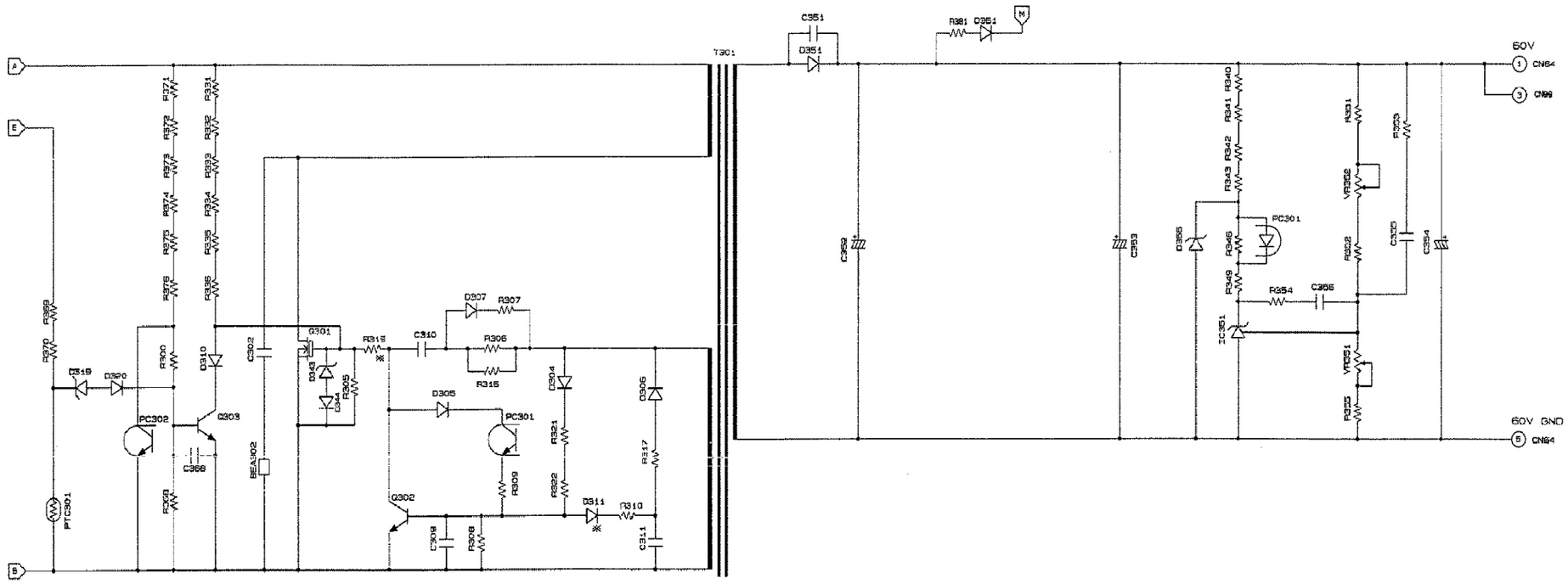
SM007	PSU Circuit - Sheet 1	HITACHI



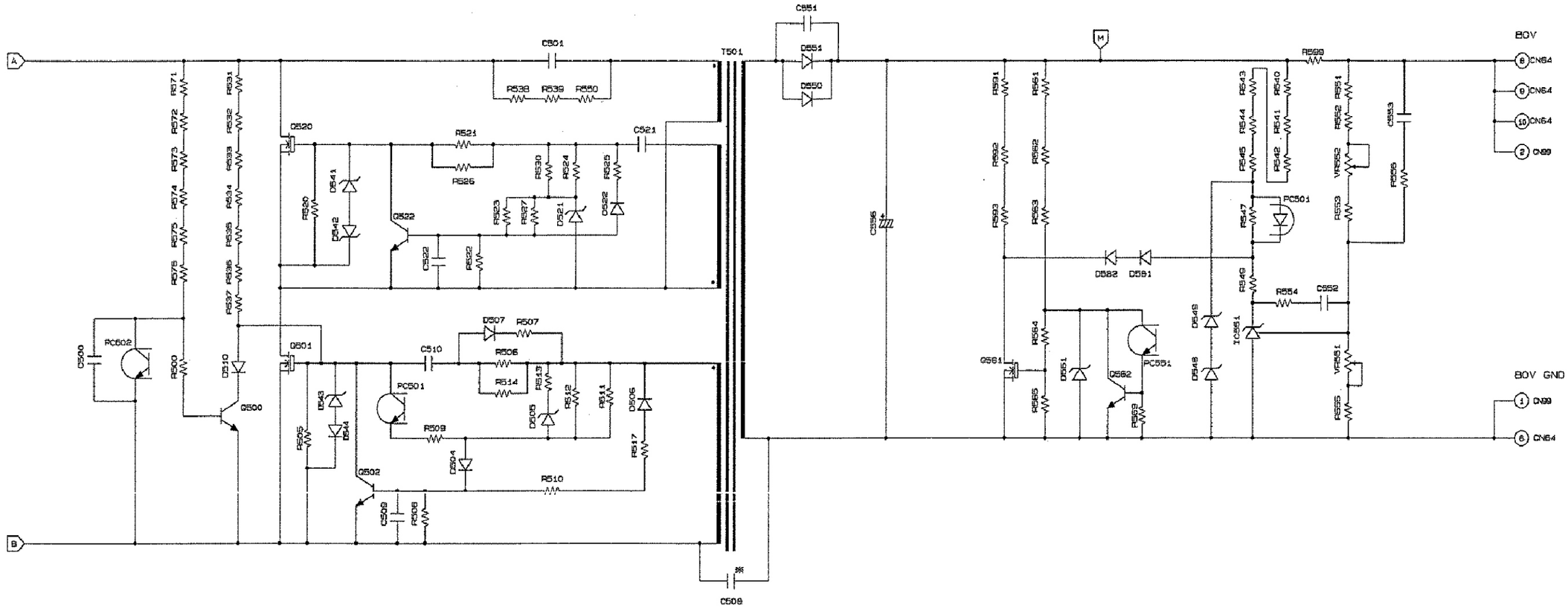
SM007	PSU Circuit - Sheet 2	HITACHI



SM007	PSU Circuit - Sheet 3	HITACHI



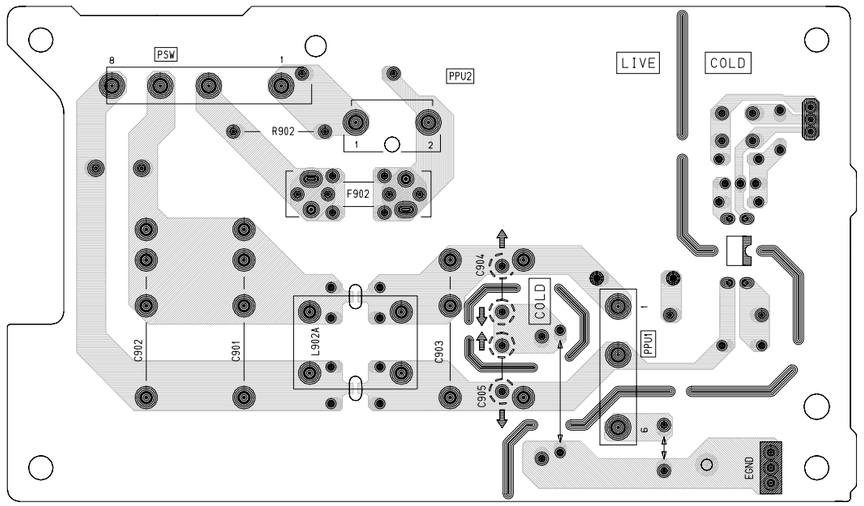
SM007	PSU Circuit - Sheet 4	HITACHI



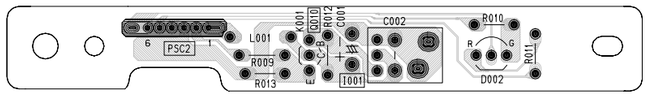
SM007	PSU Circuit - Sheet 5	HITACHI

10. Printed wiring board diagram

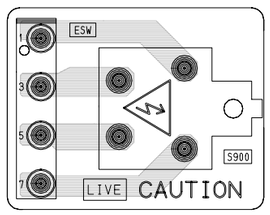
FILTER board



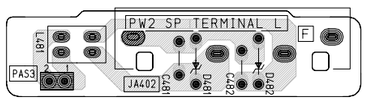
LED/RECEIVER board



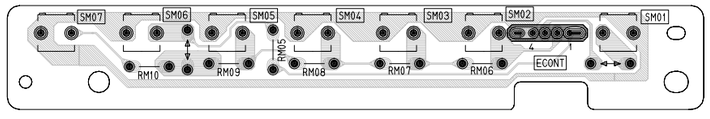
SW board



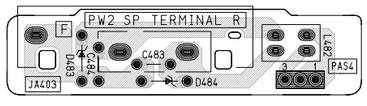
SP TERMINAL L board



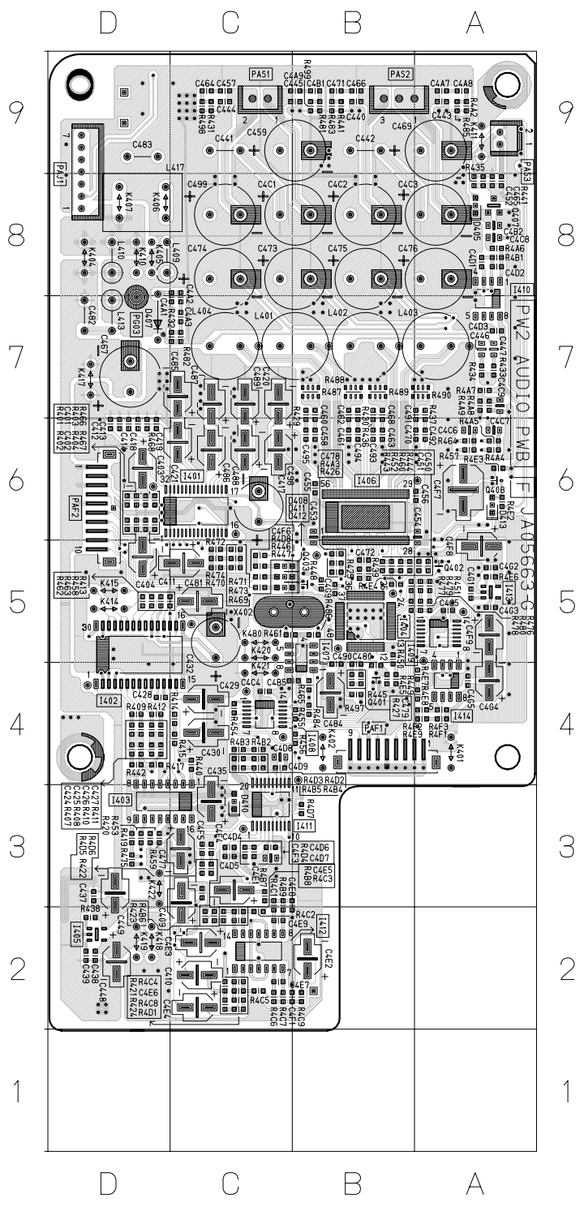
TACT SW board



SP TERMINAL R board



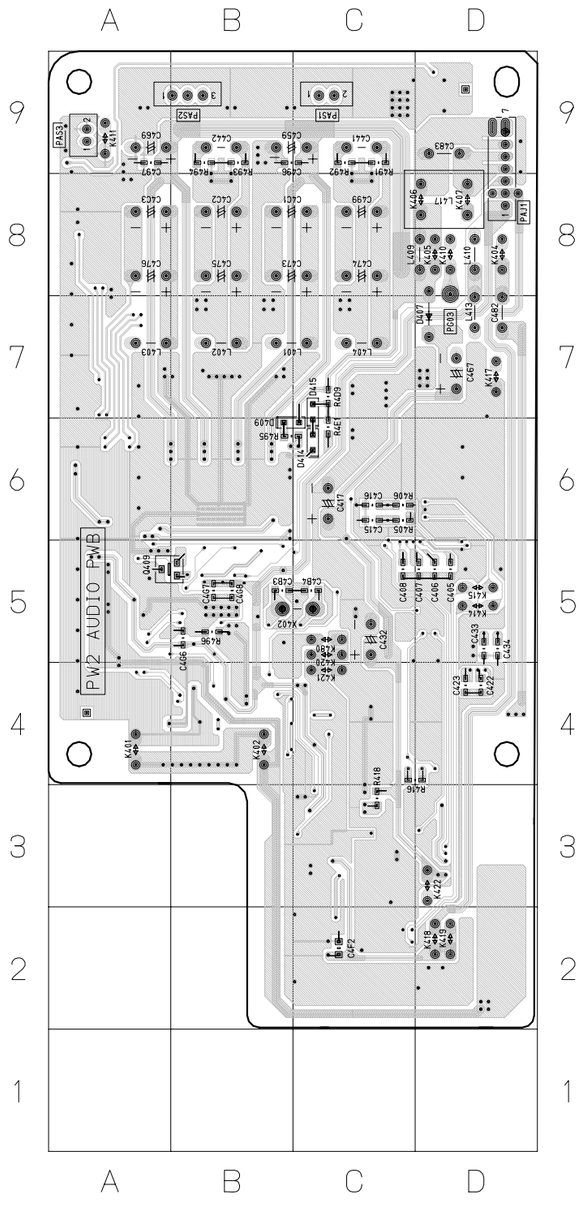
AUDIO board (side-A)



Main chip parts reference table

CIR.No.	Position
D408	C5
D411	C5
D412	C5
I401	C6
I404	B5
I405	D2
I406	B6
I407	B5
I408	C4
I409	A5
I411	C3
I412	C2
PAF1	B4
PAF2	D6
Q401	B4
Q402	A5
Q403	B5

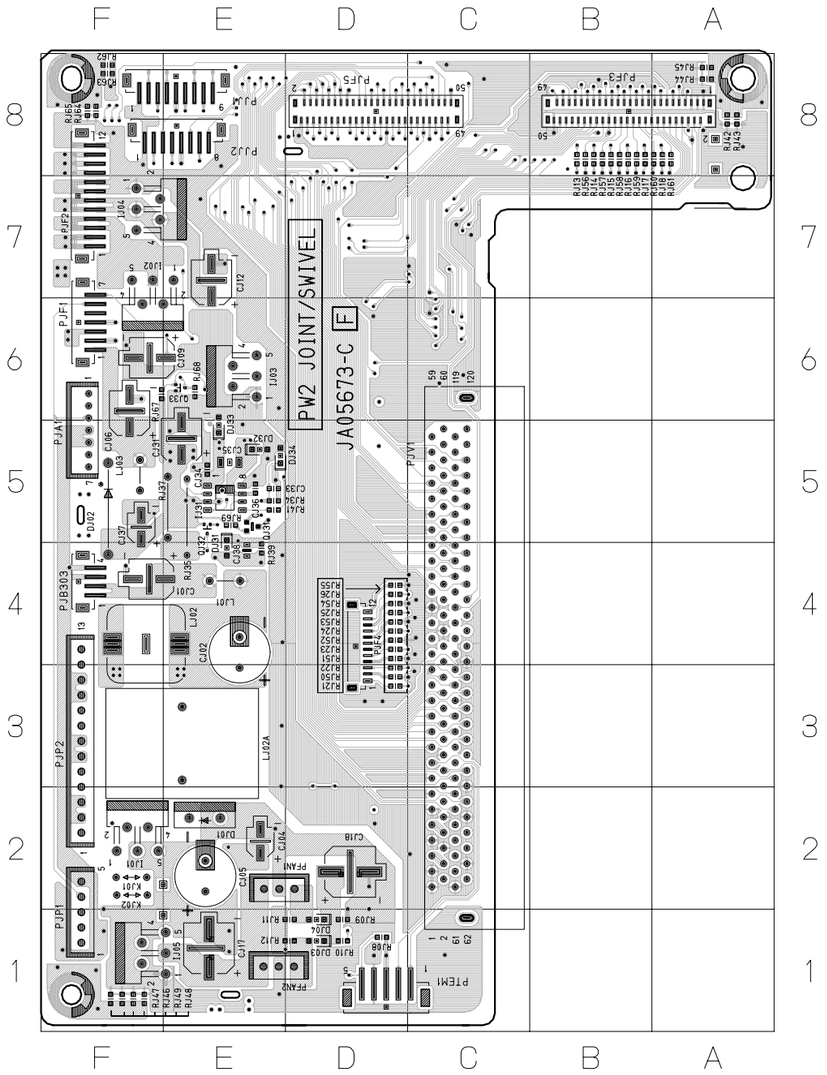
AUDIO board (side-B)



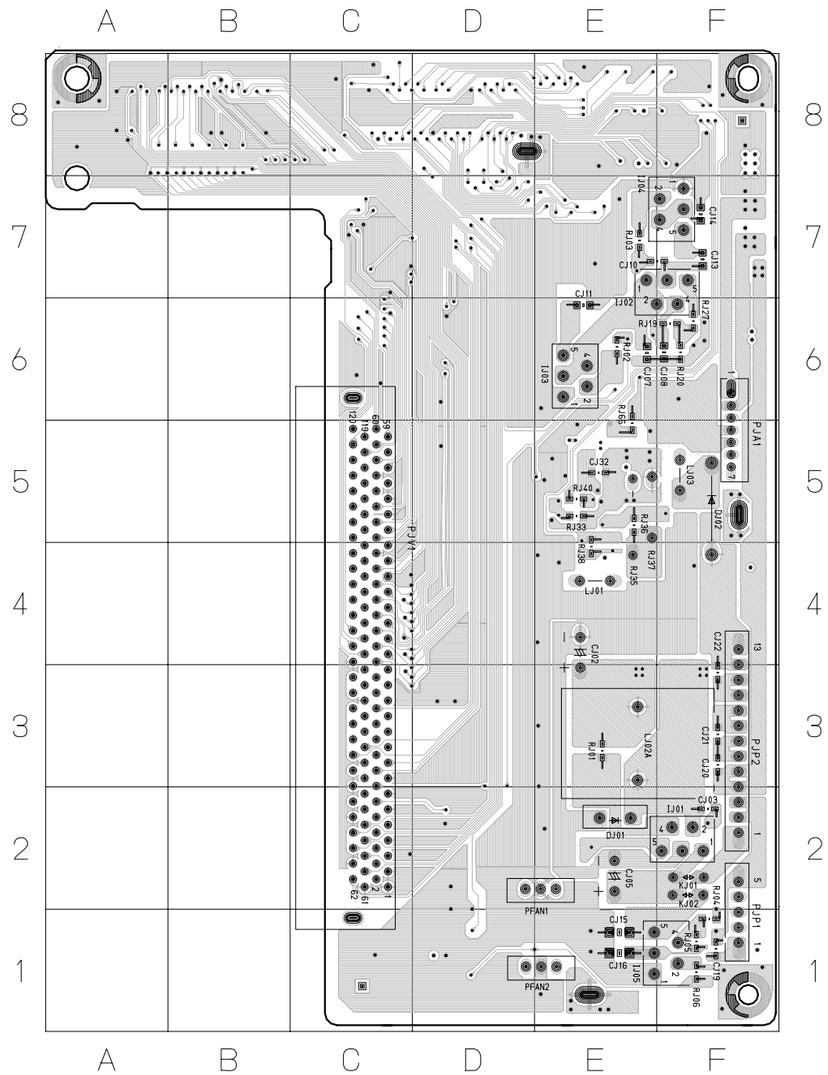
Main chip parts reference table

CIR.No.	Position
D409	B6

JOINT board (side-A)



JOINT board (side-B)

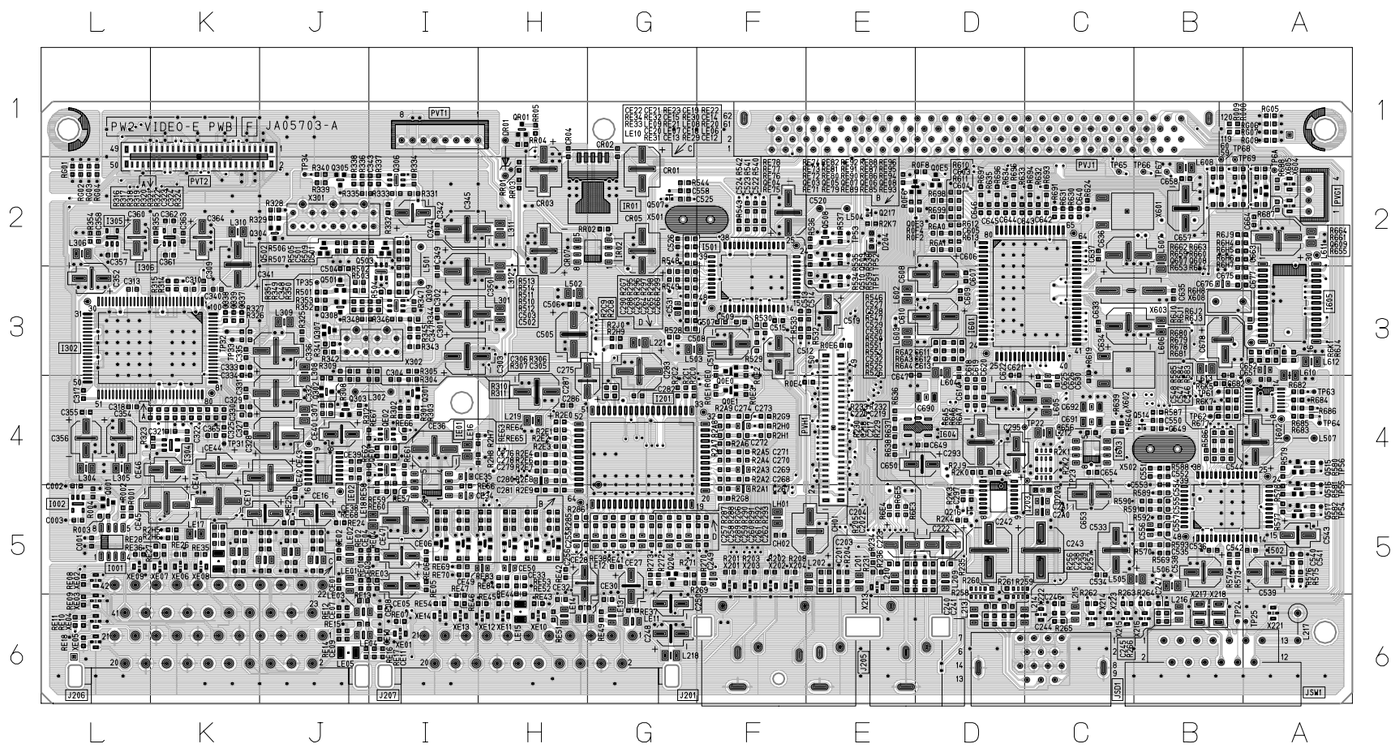


Main chip parts reference table

CIR.No.	Position
DJ31	E4
DJ32	E5
DJ33	E5
IJ31	E5
PJF1	F6
PJF2	F7
PJF3	B8
PJF5	D8
PJJ1	E8

CIR.No.	Position
PJI2	E8
QJ31	E5
QJ32	E5
QJ33	E6

VIDEO board (side-A)



Main chip parts reference table

CIR.No.	Position
D203	C5
D204	E2
D501	I2
I001	L5
I002	L5
I201	G4
I203	D5
I302	L3
I304	K4
I305	L2
I306	K2
I501	F3
I502	B5
I601	C3
I602	A4
I603	C4
I604	D4
I605	A3

CIR.No.	Position
IE01	I5
IE02	J4
IR01	G2
IR02	G2
L201	E5
L202	E5
L209	D5
L210	E5
L212	C4
L213	D6
L214	D6
L215	C6
L216	B6
L218	G6
L219	H4
L221	G3
L301	H3
L304	L4

CIR.No.	Position
L305	L4
L306	L2
L307	J4
L308	J3
L309	J3
L310	K2
L311	H2
L312	H3
L502	H3
L503	G3
L505	B5
L506	B5
L602	E3
L603	E3
L604	D3
L605	C4
L606	B3
L607	B2

CIR.No.	Position
L608	B2
L610	A4
L611	A2
L612	A3
L613	B3
LE01	J5
LE02	J5
LE03	J6
LE04	J6
LE05	J6
LE06	J5
LE07	J5
LE08	J5
LE09	K5
LE10	K5
LE11	G6
LE12	H6
LE13	G6

CIR.No.	Position
LE14	H6
LE15	H6
LE16	I4
LE17	K5
LE18	I5
LH01	F5
PVH1	E4
PVT2	K2
Q001	L5
Q0E0	F3
Q0E1	F4
Q0E3	E2
Q0E5	D2
Q204	G5
Q216	D5
Q217	E2
Q301	I4
Q302	J4

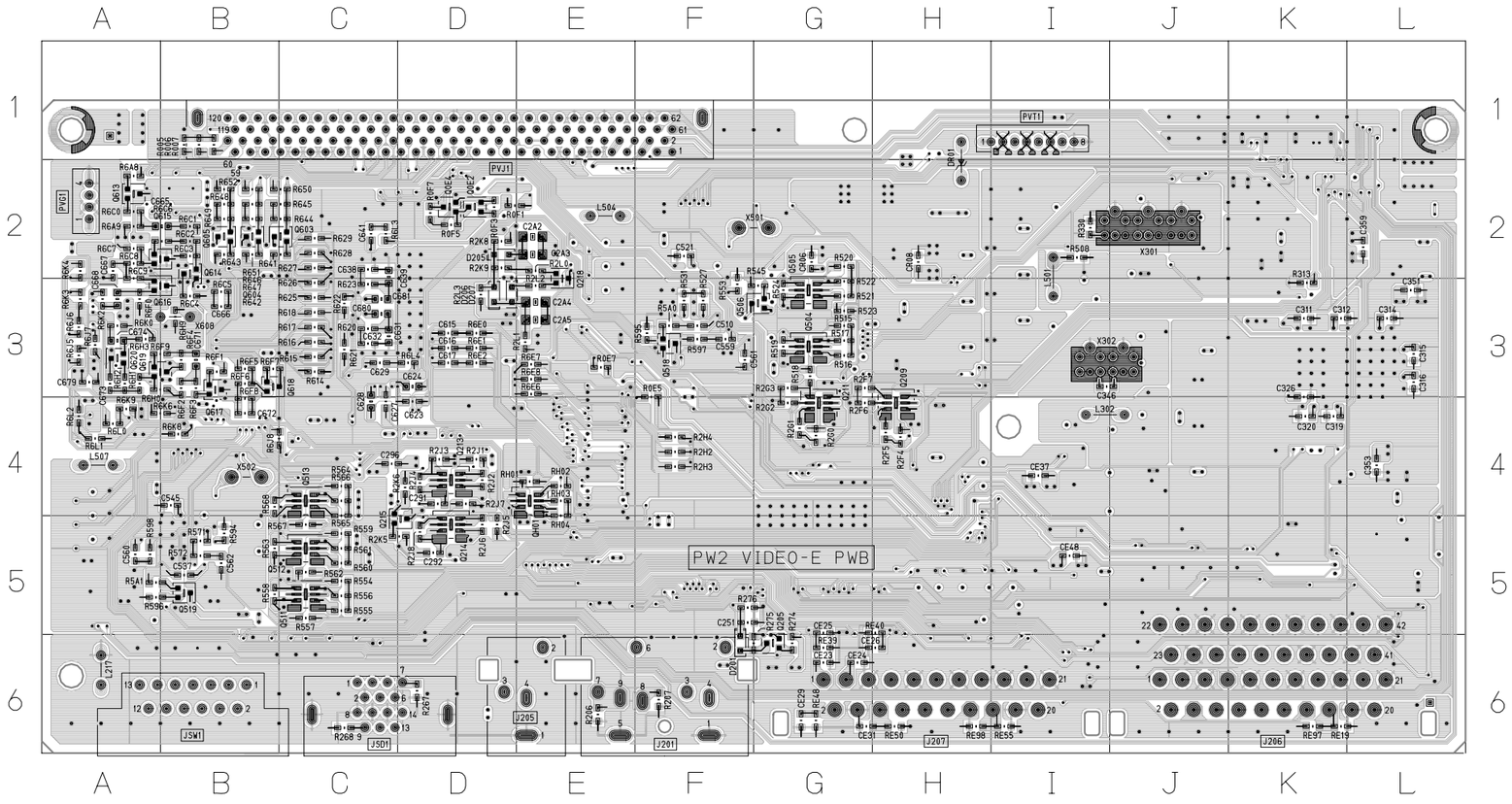
CIR.No.	Position
Q303	J4
Q304	J2
Q305	J2
Q306	I2
Q307	J3
Q308	J3
Q309	I3
Q501	J3
Q502	J2
Q503	I3
Q507	G2
Q508	E2
Q509	E2
Q510	E3
Q514	B4
Q515	A4
Q516	A5
Q517	A5

CIR.No.	Position
Q607	B2
Q608	B2
Q609	A2
QE01	I4
QE02	I4
QE03	I5
QE04	I5
QE05	H5
QE06	H5
QE07	H5
QE08	H5
QR01	H1
X201	F5
X202	F5
X203	F5
X204	F5
X213	E5
X214	C6

CIR.No.	Position
X215	C6
X216	B6
X217	B6
X218	B6
X221	A6
X222	C6
X223	C6
X601	C2
X602	C3
X603	C3
X604	A2
X605	A2
XE01	I6
XE02	L5
XE03	L6
XE04	L6
XE05	L6
XE06	K5

CIR.No.	Position
XE07	K5
XE08	K5
XE09	L5
XE10	H6
XE11	H6
XE12	H6
XE13	I6
XE14	I6

VIDEO board (side-B)



Main chip parts reference table

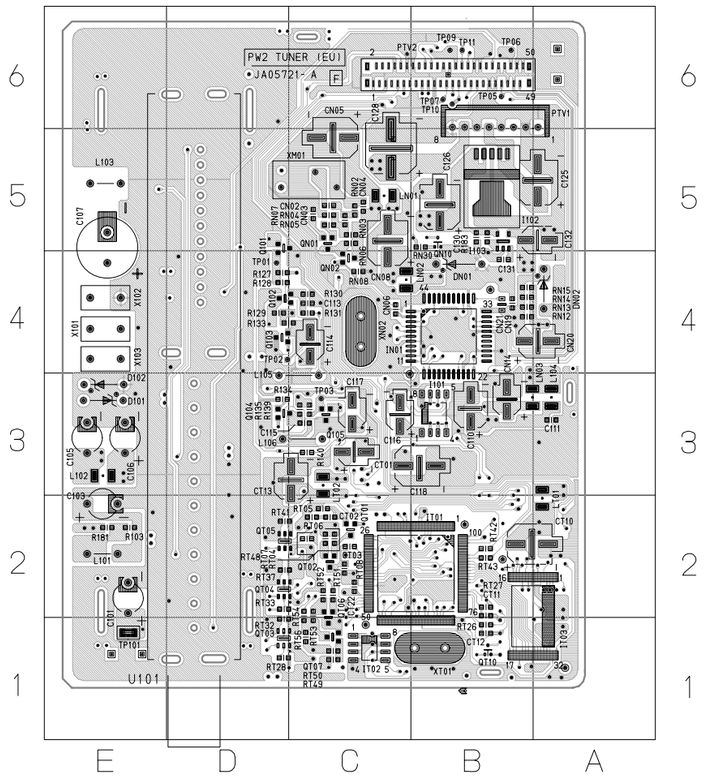
CIR.No.	Position
D201	F6
D205	D2
D206	D3
D207	D3
Q0E2	D2
Q0E4	D2
Q205	G6
Q209	H4
Q211	G4

CIR.No.	Position
Q213	D4
Q214	D5
Q215	D5
Q218	E3
Q504	G3
Q505	G3
Q506	G3
Q511	C5
Q512	C5

CIR.No.	Position
Q513	C4
Q518	F3
Q519	B5
Q603	C2
Q604	B2
Q605	B2
Q613	A2
Q614	B2
Q615	B2

CIR.No.	Position
Q616	B3
Q617	B3
Q618	B3
Q619	B3
Q620	A3
QH01	E4

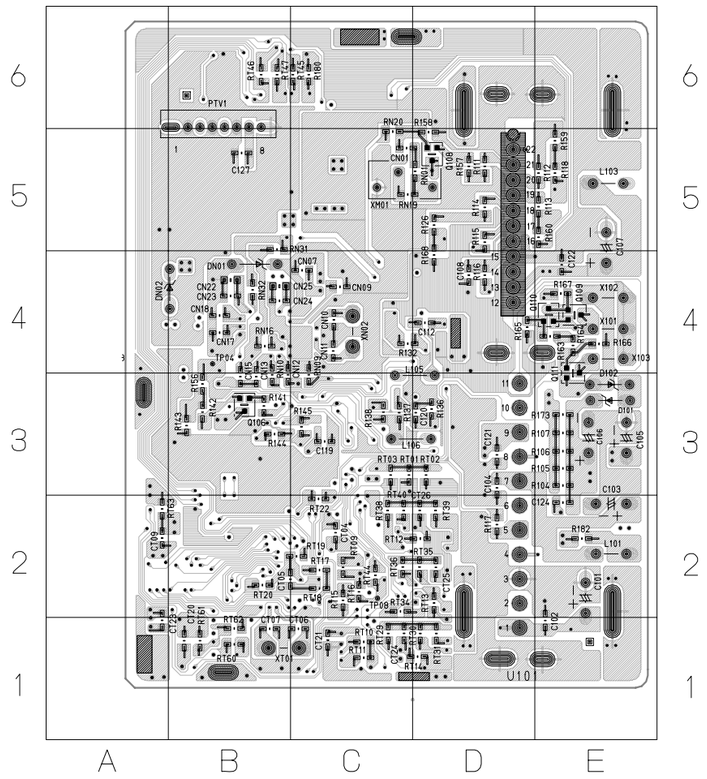
TUNER board (Side-A)



CIR.No.	Position
I101	B3
I102	B5
I103	B5
IN01	B4
IT01	B2
IT02	C1
IT03	B2
L102	E3
L104	A3
LN01	C5
LN02	C4
LN03	B3
LT01	A2

CIR.No.	Position
LT02	C3
PTV2	B6
Q101	D5
Q102	D4
Q103	D4
Q104	D3
Q105	C3
QN01	C5
QN02	C4
QN10	B5
QT01	C2
QT02	C2
QT03	D1

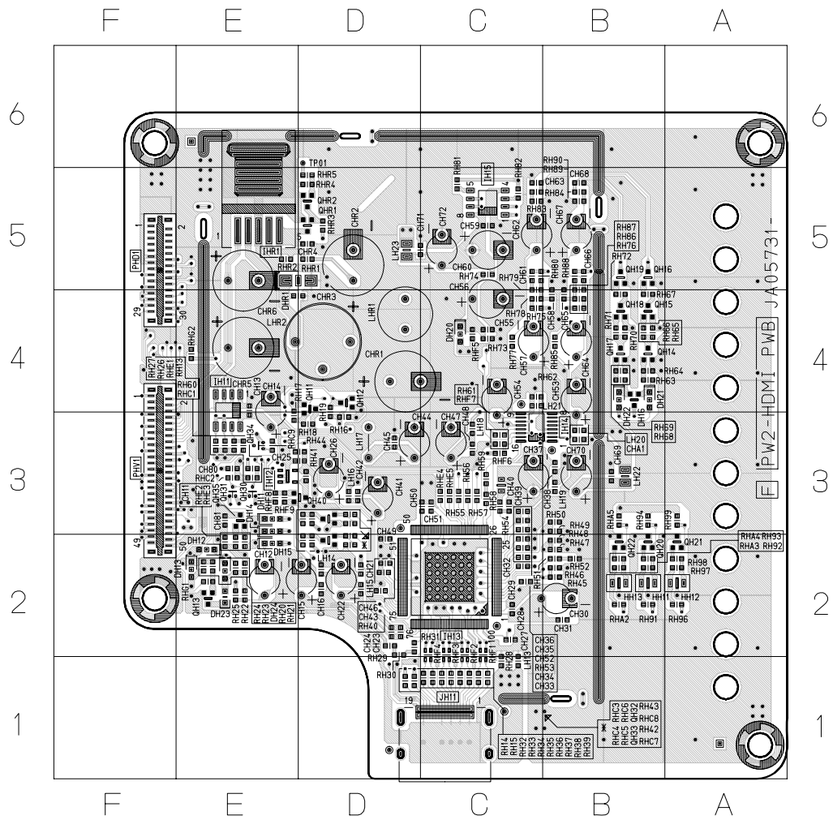
TUNER board (Side-B)



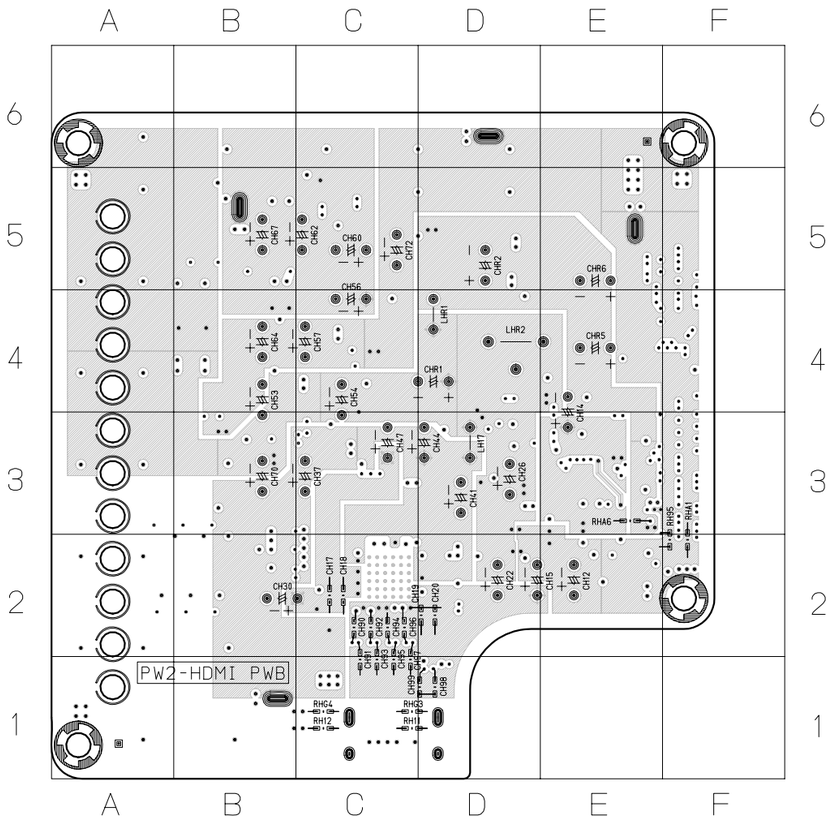
Main chip parts reference table

CIR.No.	Position
Q106	B3
Q108	D5
Q109	E4
Q110	E4
Q111	E4

HDMI board (Side-A)



HDMI board (Side-B)



Main chip parts reference table (Side-A)

CIR.No.	Position
DH11	E3
DH12	E2
DH13	E2
DH14	E3
DH15	E2
DH16	B4
DH20	C4
DH21	B4
DH22	B4
DH23	E2
DH24	E2
DHR1	E5
HH11	B2
HH12	A2
HH13	B2

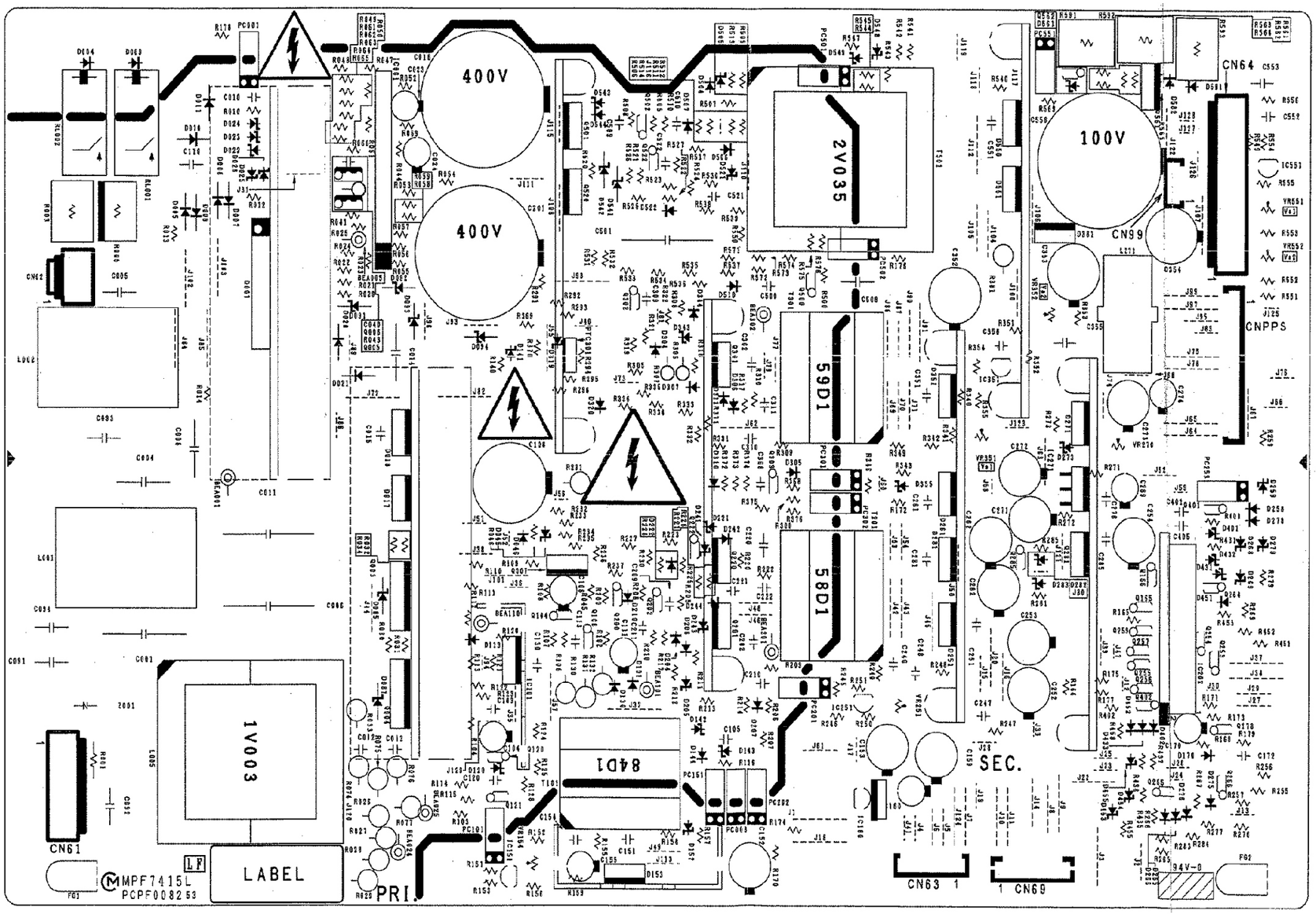
CIR.No.	Position
IH11	E4
IH12	E3
IH13	C2
IH14	C3
IH15	C5
IHR1	E5
JH11	C1
KIKU1C	F2
KIKU2C	A1
KIKU3C	F6
KIKU4C	A6
LH13	C1
LH14	D2
LH15	D2
LH16	D3

CIR.No.	Position
LH18	C3
LH19	B3
LH20	B3
LH21	C4
LH22	B3
LH23	D5
PHD1	F5
PHV1	F3
QH11	D4
QH12	D4
QH13	E2
QH14	B4
QH15	B4
QH16	B5
QH17	B4

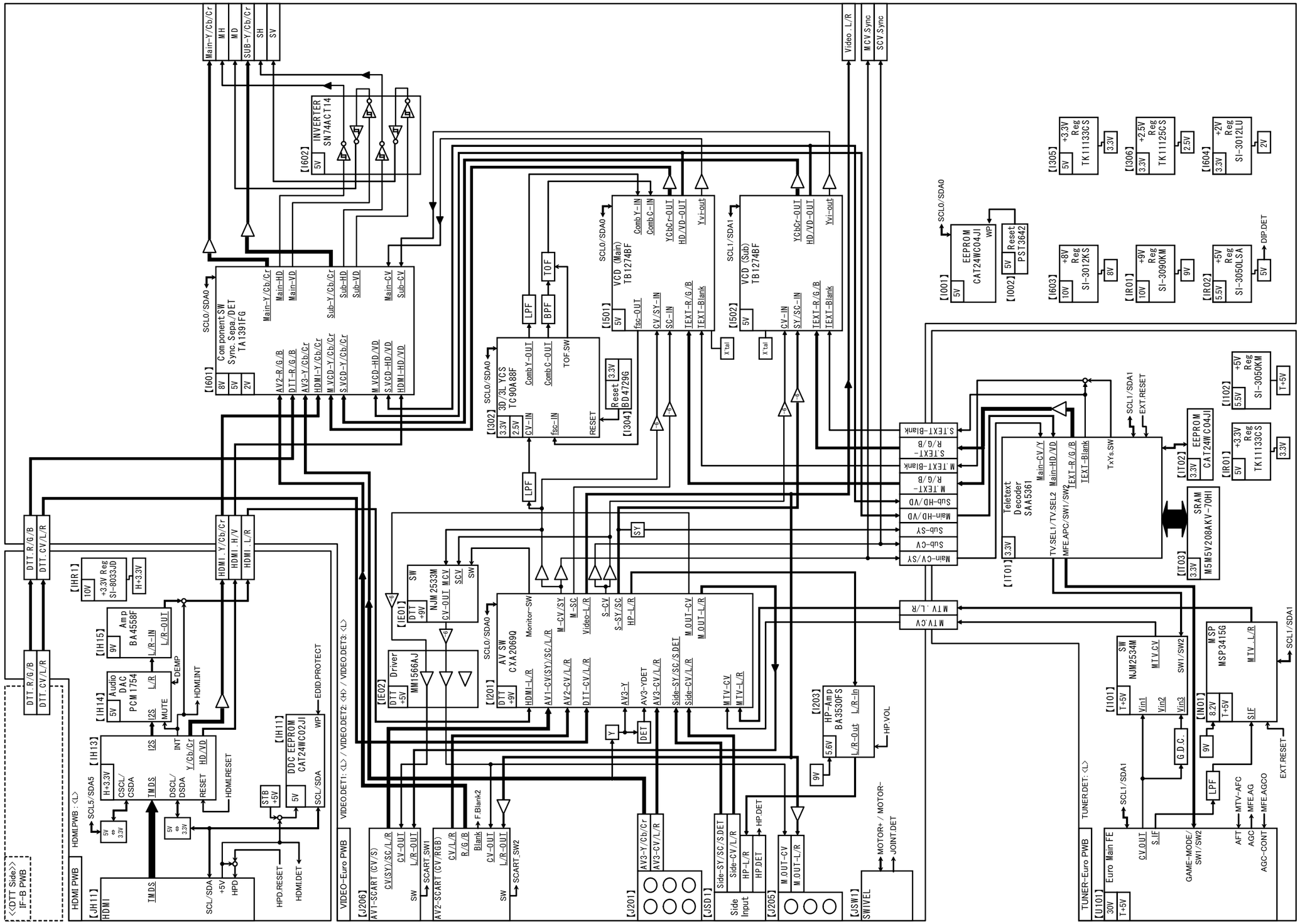
CIR.No.	Position
QH18	B4
QH19	B5
QH20	B2
QH21	A2
QH22	B2
QH30	E3
QH31	E3
QH32	D3
QH33	D2
QH34	E3
QH35	E3
QH40	D3
QHR1	D5
QHR2	D5
TP01	D6

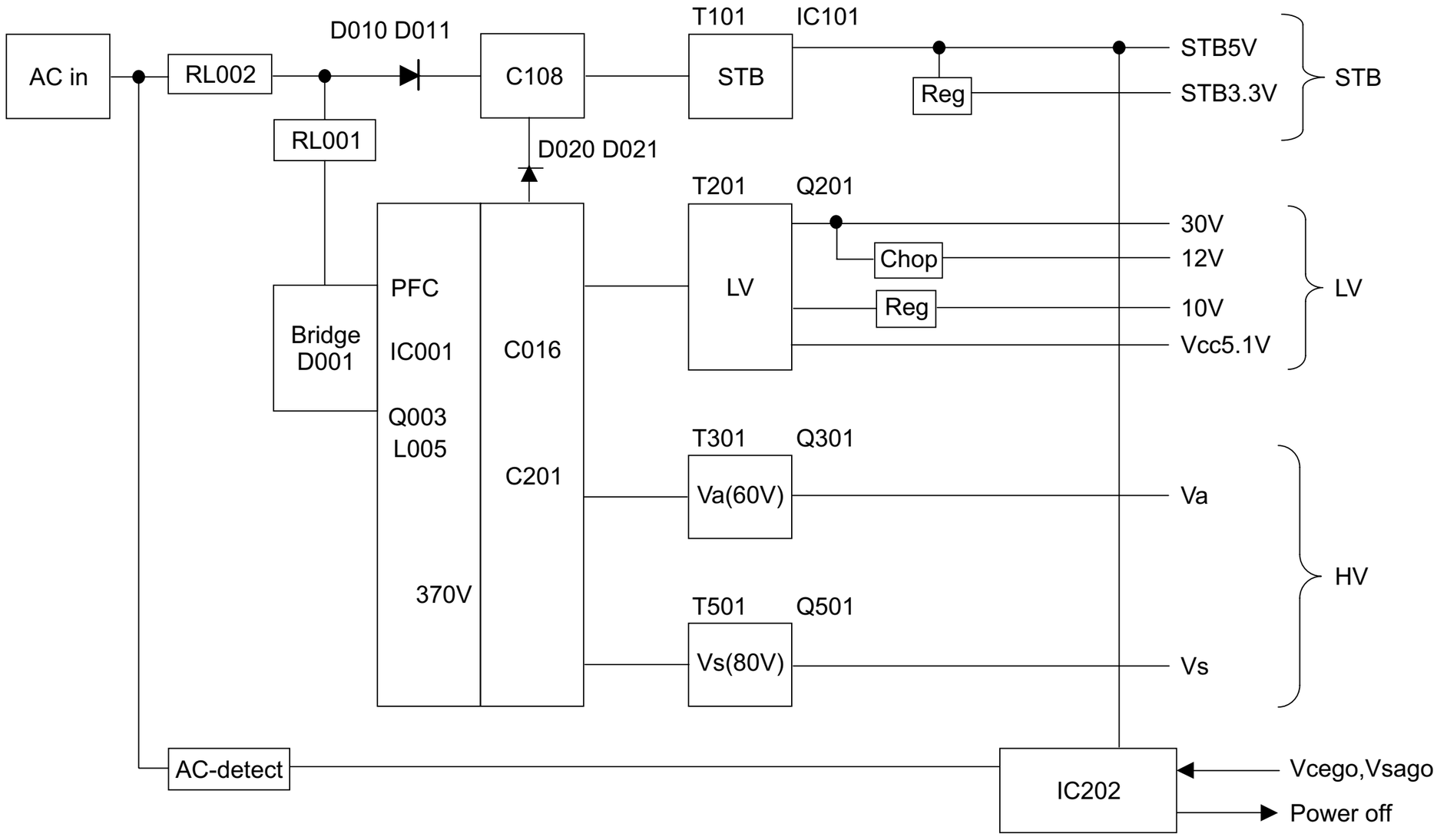
Main chip parts reference table (Side-B)

CIR.No.	Position
KIKU1S	F2
KIKU2S	F6
KIKU3S	A6
KIKU4S	A1


400V
400V
100V
2V035
59D1
58D1
84D1
1V003
CN64
CN99
CNPPS
CN61
CN63
CN69
SEC.
PRI.
LABEL
MPF7415L
PCPF0082 53
94V-0

11. Block diagram





SM007 | PSU Block Diagram | HITACHI

12. Connection diagram

PSU Board Connector Pin Assignments

AC Input

Pin No	CN61
1	AC(L)
2	NC
3	AC(N)
4	NC
5	NC
6	FG

Signal 1

Pin No	CN63
1	STB5.8V
2	STB5.8V
3	NC
4	Power off
5	GND
6	GND

Signal 2

Pin No	CNPPS
1	30V
2	GND
3	GND
4	Vcc5.1V
5	Vcc5.1V
6	GND
7	GND
8	12V
9	12V
10	GND
11	GND
12	10V
13	10V

Panel 1

Pin No	CN64
1	Va
2	NC
3	Vcc5.1V
4	GND
5	GND
6	GND
7	NC
8	Vs
9	Vs
10	Vs

Panel 4

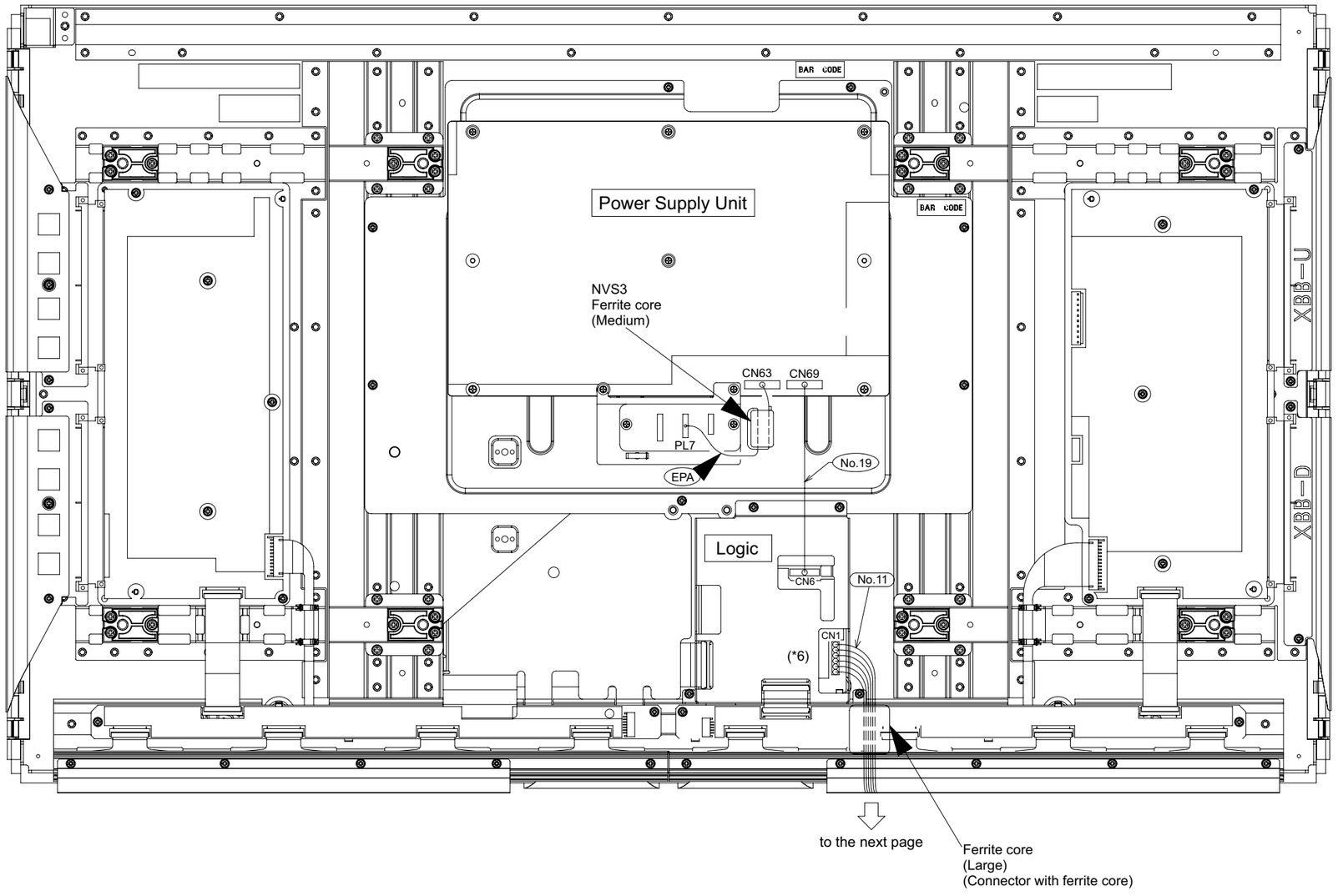
Pin No	CN69
1	Vcc5.1V
2	GND
3	STB3.3V
4	GND
5	NC
6	NC
7	Vcego
8	Vsago
9	NC

Adjust

Pin No	CN99
1	Va
2	Vs
3	GND

13. Wiring diagram

wiring diagram for 42PD7500 1/3

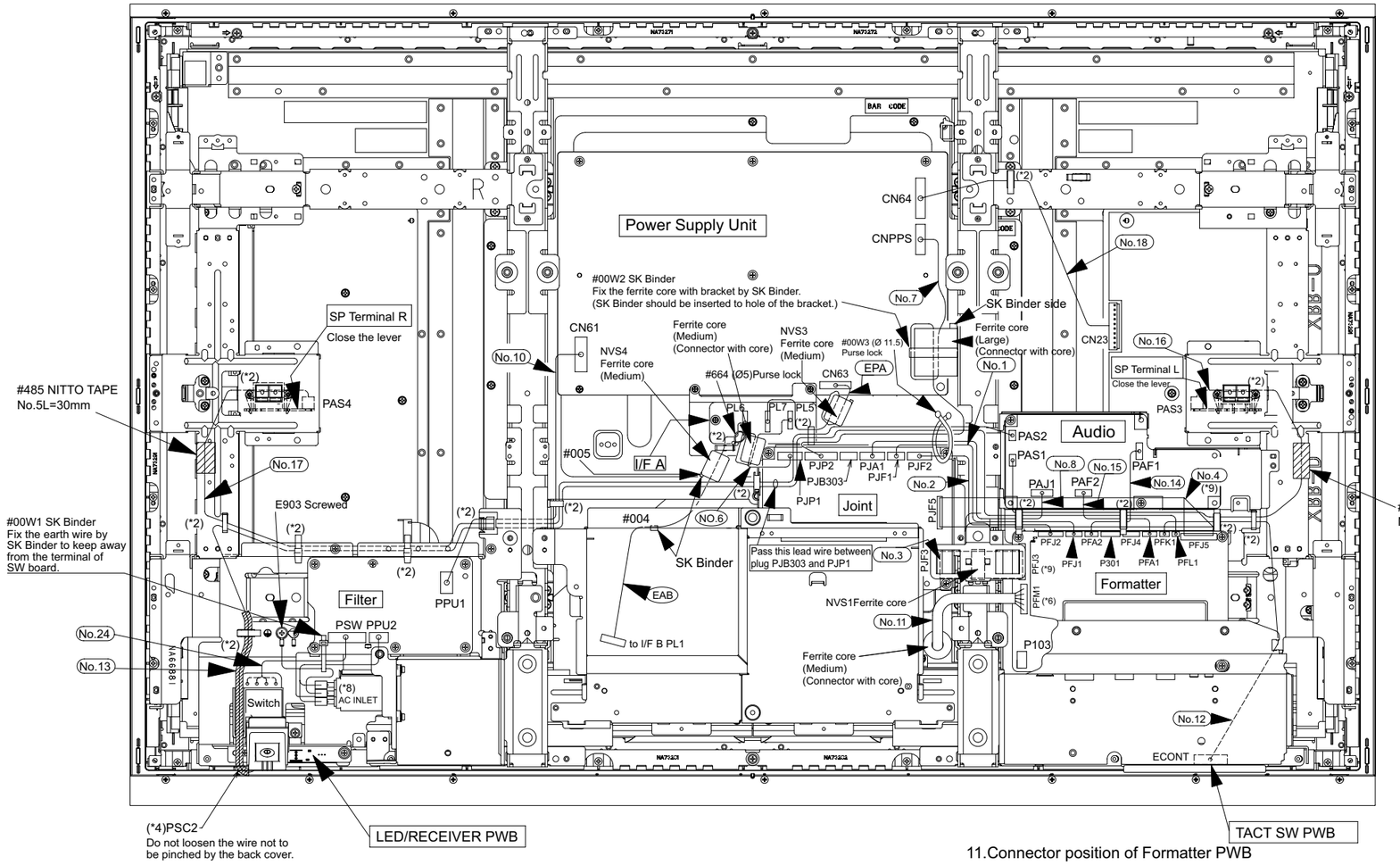


Specification

1.This drawing shows the wiring diagram.Connection and wire styling in this model are in the figure.
2.This drawing shows the rear view of the set.
3.Insert the connector with the lock mechanizm until being firmly locked and the other connectors to the base part of post.
4.Refer to Table 1 as for the connector.
5.Regarding the mounting lug terminal cable (E903) with screws in detail, refer to the Final drawings(UQ3525).
6.In figure,as for the parts (*2) of the lead holder,the wire must be inserted inside of it surely. The connector with the lock mechanism must be lock firmly.
7.Lock the hook of the core surely until it sounds click when you close the ferrite core.

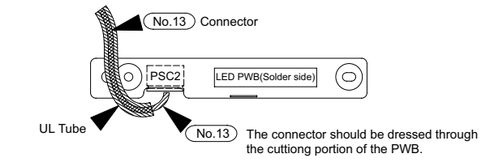
From		Connector	To		Remark
Number of Receptacle	PWB A'ssy		Number of Receptacle	PWB A'ssy	
PJF1	Joint	No.1	PFJ1	Formatter	7PZH
PJF2	Joint	No.2	PFJ2	Formatter	12PZH
PJF3	Joint	No.3	PFJ3	Formatter	50PFFC
PJF5	Joint	No.4	PFJ5	Formatter	50PFFC
PL7	I/F A	EPA	CN63	Power Supply	6PEH
PJP2	Joint	No.7	CNRPS	Power Supply	13PEH
PJA1	Joint	No.8	PAJ1	Audio	7PPH
PJB303	Joint				
PPU1	Filter	No.10	CN61	Power Supply	6PVH
PFM1	Formatter	No.11	CN1	Power Logic	DF13
PFK1	Formatter	No.12	ECONT	KEY	4PSH-PH
PFL1	Formatter	No.13	PSC2	LED	6PSH-PH
PFA2	Formatter	No.14	PAF1	Audio	9PSH-PH
PFA1	Formatter	No.15	PAF2	Audio	10PSH-PH
PAS1	Audio	No.16	PAS3	SP Terminal L	2PEH
PAS2	Audio	No.17	PAS4	SP Terminal R	3PEH
CN64	Power Supply	No.18	CN23	Panel X SUS	10PVH
CN69	Power Supply	No.19	CN6	Panel Logic	9PPH
P103	Formatter				
P301	Formatter				
PSW	Filter	No.24		SW PWB A'ssy	VH
E901	AC Inlet	E902	PPU2	Filter	2PVT
E901	AC Inlet	E903		Chassis GND	
PL5	I/F A	NO.6	PJP1	Joint	5PEH
PL6	I/F A	EAB	PL1	I/F B	6P

wiring diagram for 42PD7500 2/3

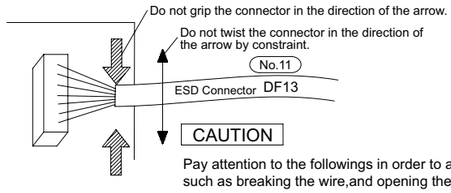


Specification

8.Part (*4) specification



9.Part (*6)specification



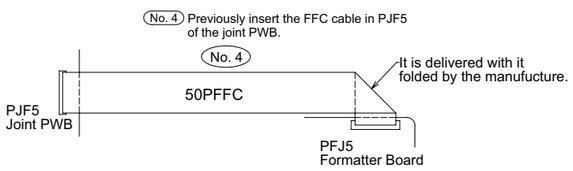
Pay attention to the followings in order to avoid defects, such as breaking the wire,and opening the pin contact part.

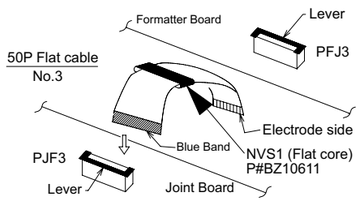
(1)Do not grip the wire in the direction of the arrow around the connector.
(It is because the stress focuses on the wire at both ends of connectors.)

(2)Do not twist the wire in the direction of the arrow by constraint when detach the connector.
(It is because the stress focuses on the wire at both ends of connectors.)

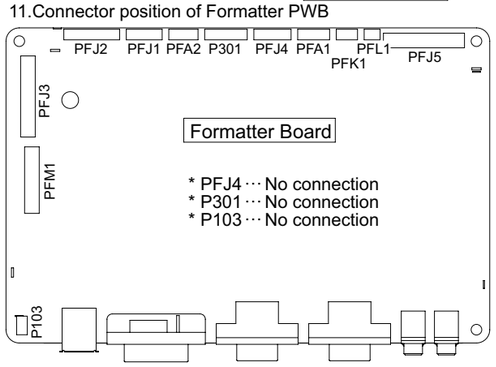
12.(*9) Specification

No. 3,4 Insert the Flat cable as shown on the drawing below, and press the stopper lock it surely.
Refer the Final ass'y drawing about the detail of the assemble.

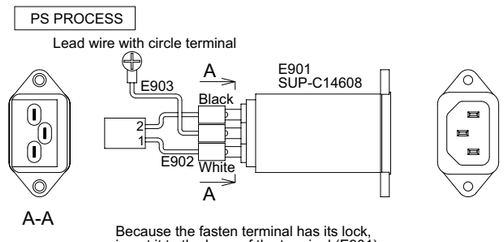




11.Connector position of Formatter PWB

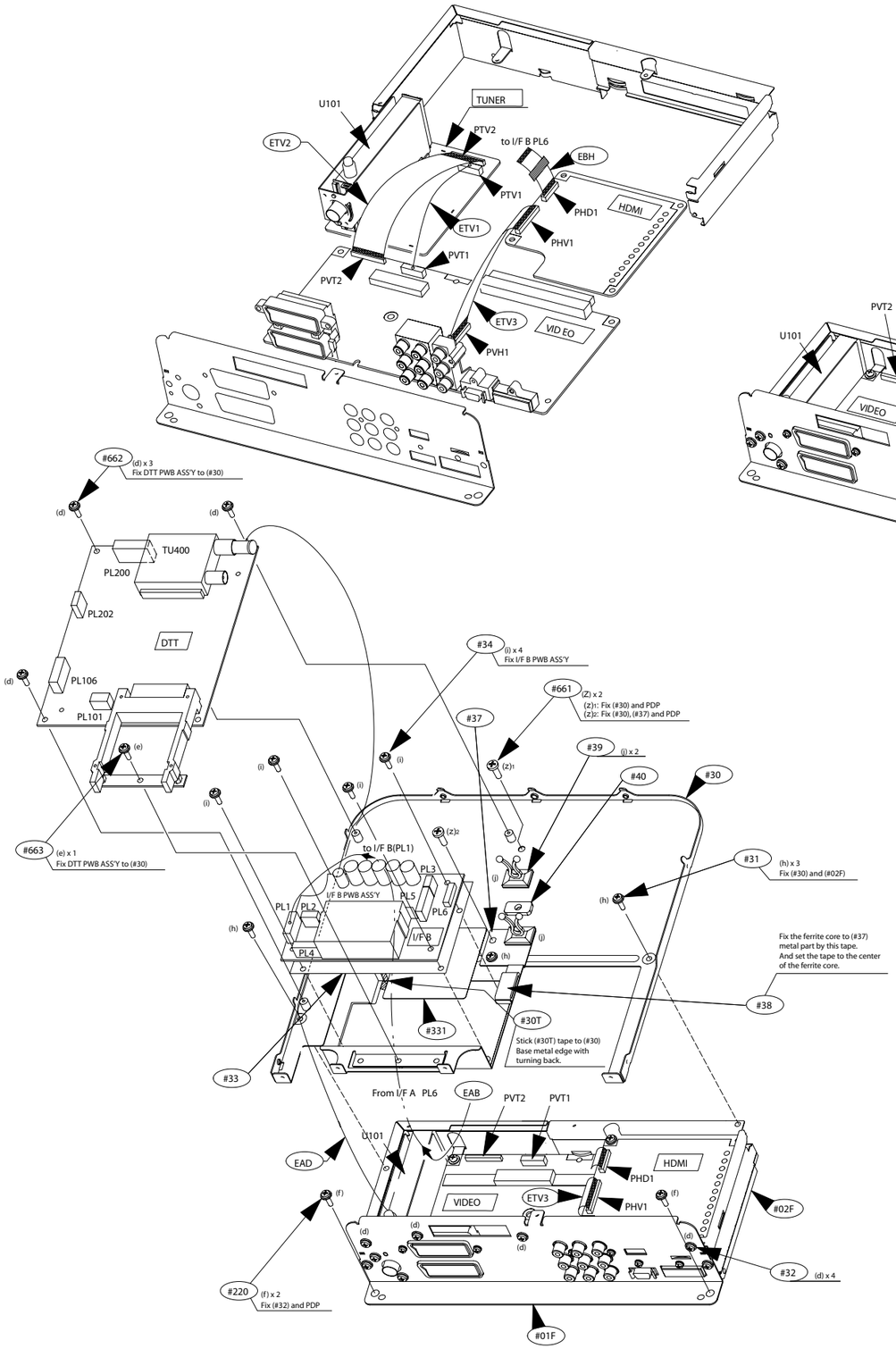


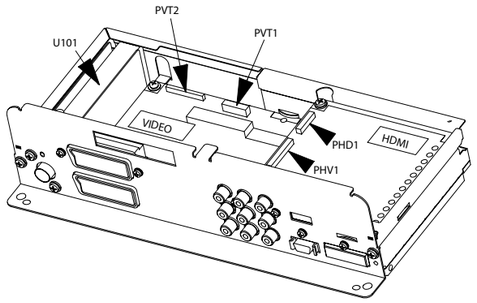
10.Part (*8) specification.
The following is the connector connection to AC inlet.



Because the fasten terminal has its lock, insert it to the base of the terminal (E901), Release the lock while detaching the terminal. (While pushing the button to detach.)

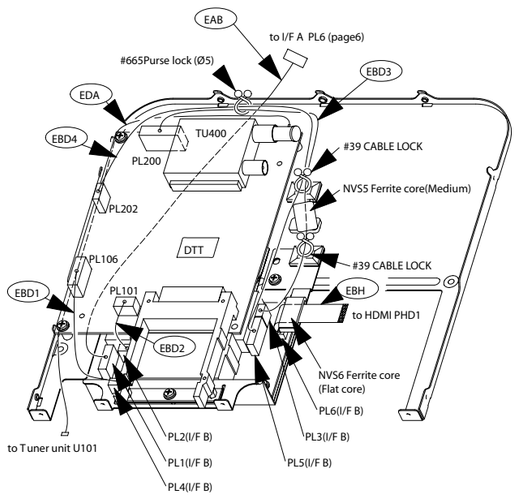
wiring diagram for 42PD7500 3/3



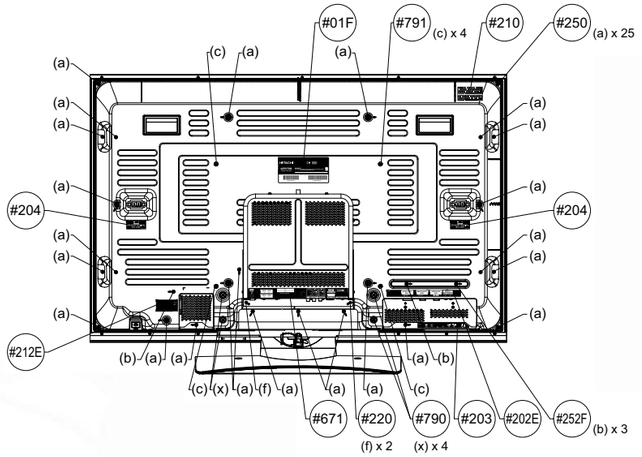


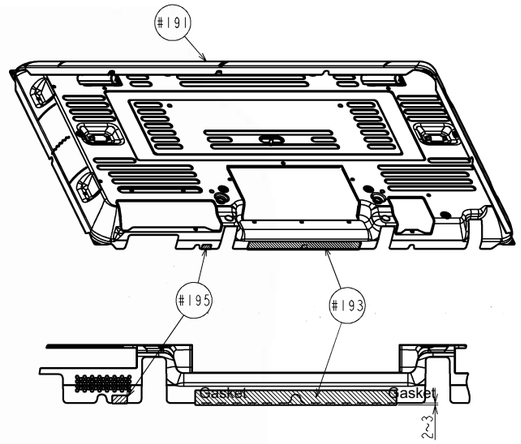
From		Connector	To		Remark
Number of Receptacle	PWB A'ssy		Number of Receptacle	PWB A'ssy	
PTV1	TUNER	ETV1	PVT1	VIDEO	8PPH
PTV2	TUNER	ETV2	PVT2	VIDEO	50PFFC
PHV1	HDMI	ETV3	PVH1	VIDEO	50PFFC

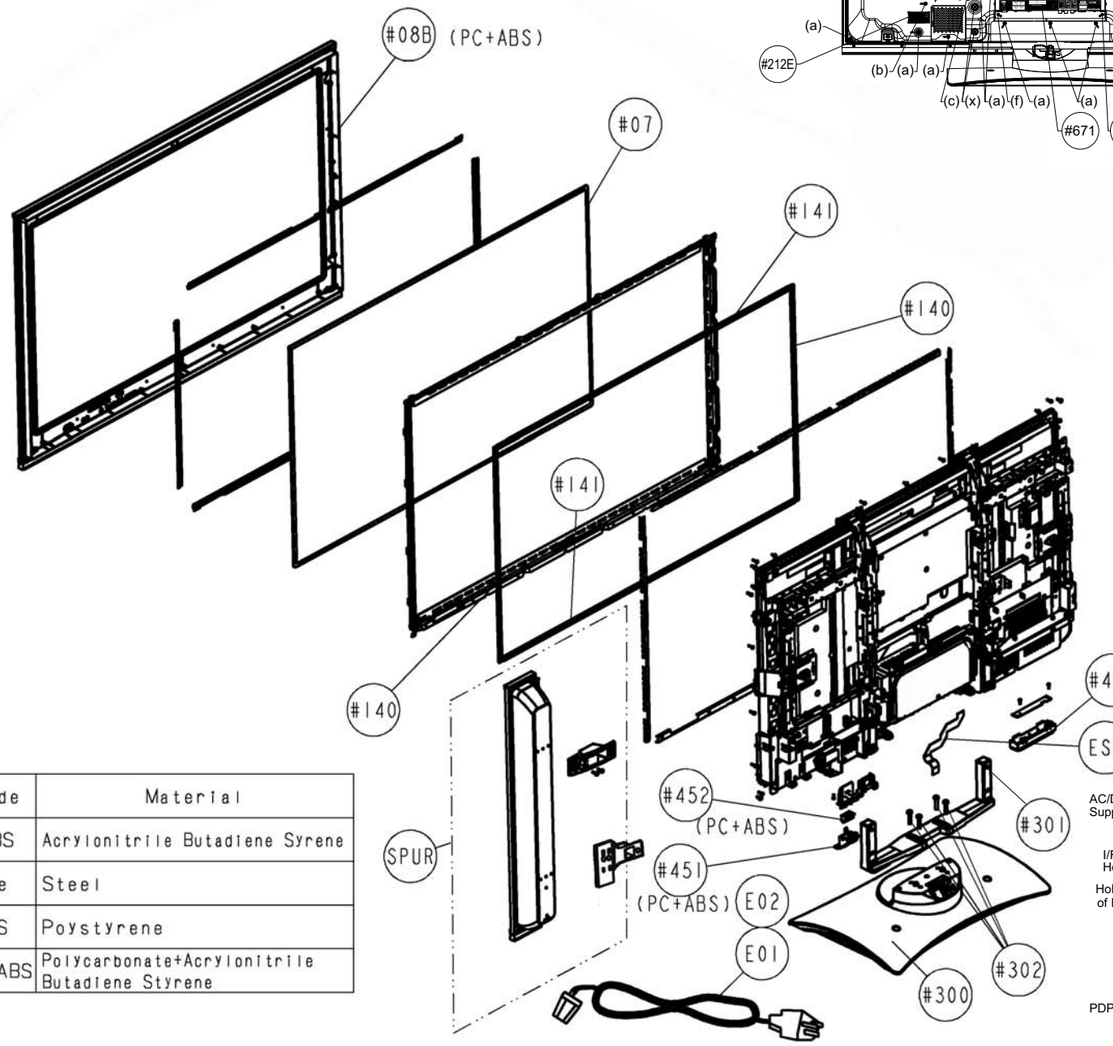
From		Connector	To		Remark
Number of Receptacle	PWB A'ssy		Number of Receptacle	PWB A'ssy	
U101	TUNER	EAD	TU400	DTT	
PL4	I/F B	EBD1	PL106	DTT	7P
PL2	I/F B	EBD2	PL101	DTT	4P
PL3	I/F B	EBD3	PL200	DTT	8P
PL5	I/F B	EBD4	PL202	DTT	3P
PL6	I/F B	EBH	PHD1	HDMI	30P FFC

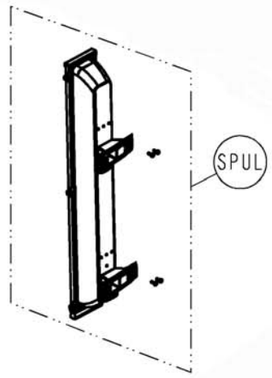


14. Disassembly diagram (42V)

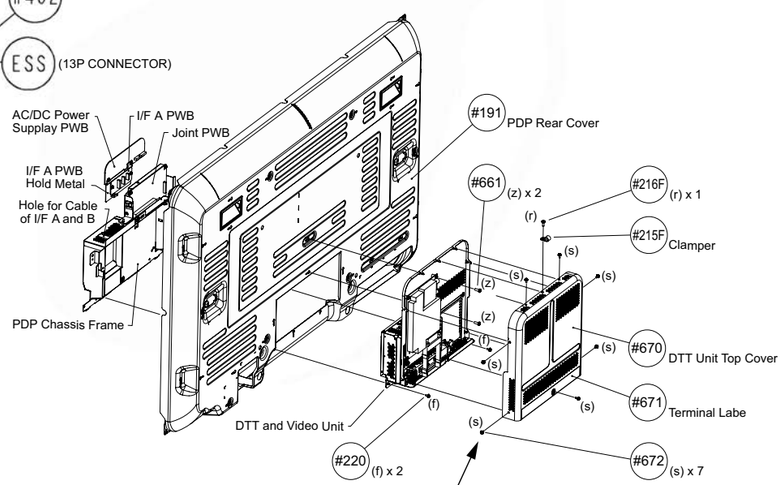








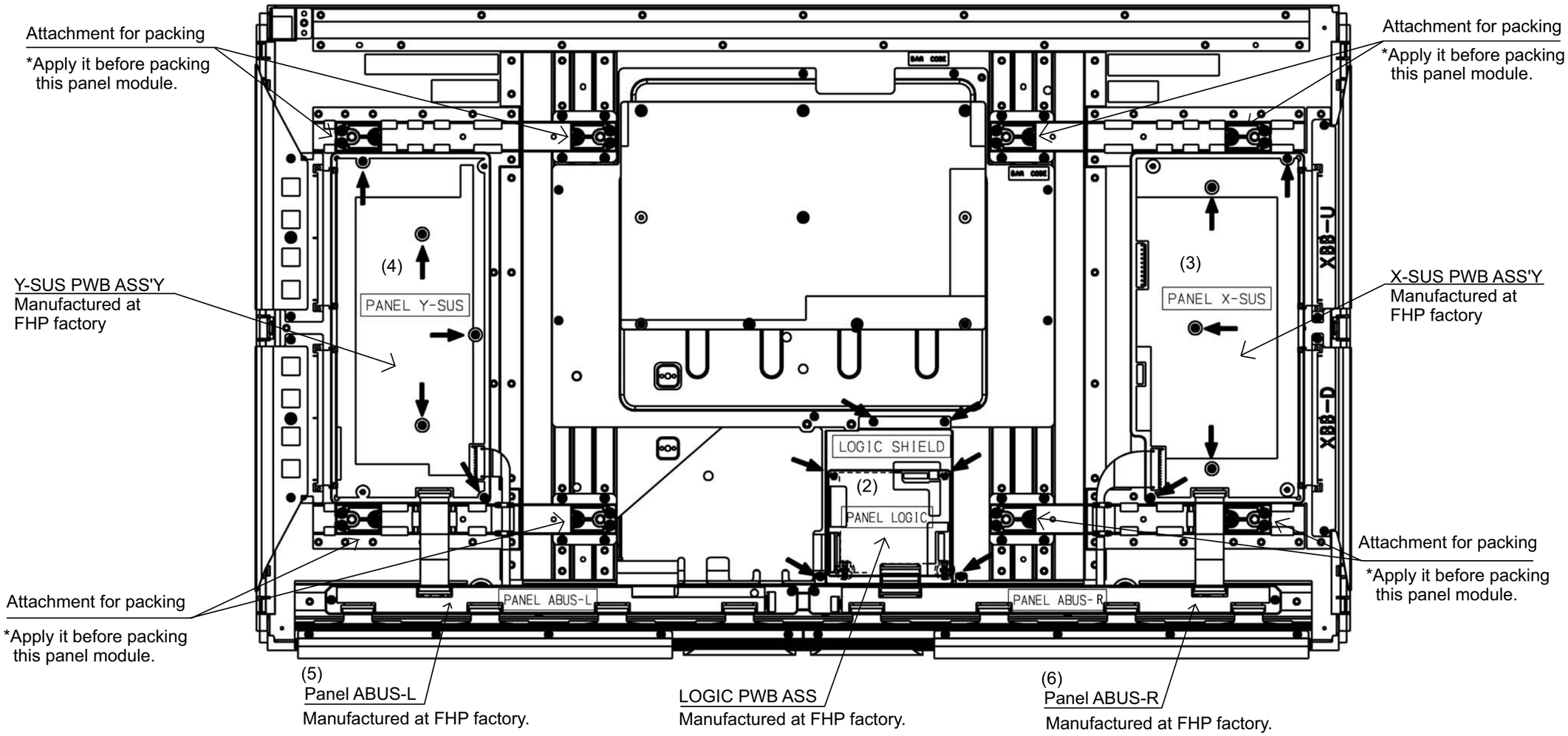
Code	Material
ABS	Acrylonitrile Butadiene Syrene
Fe	Steel
PS	Poystyrene
PC+ABS	Polycarbonate+Acrylonitrile Butadiene Styrene



CAUTION
Be carefully ***not to make scratches on the PDP Back Cover*** (#191) when you assemble the Unit Top Case by screwing of (#672) and (#216F).

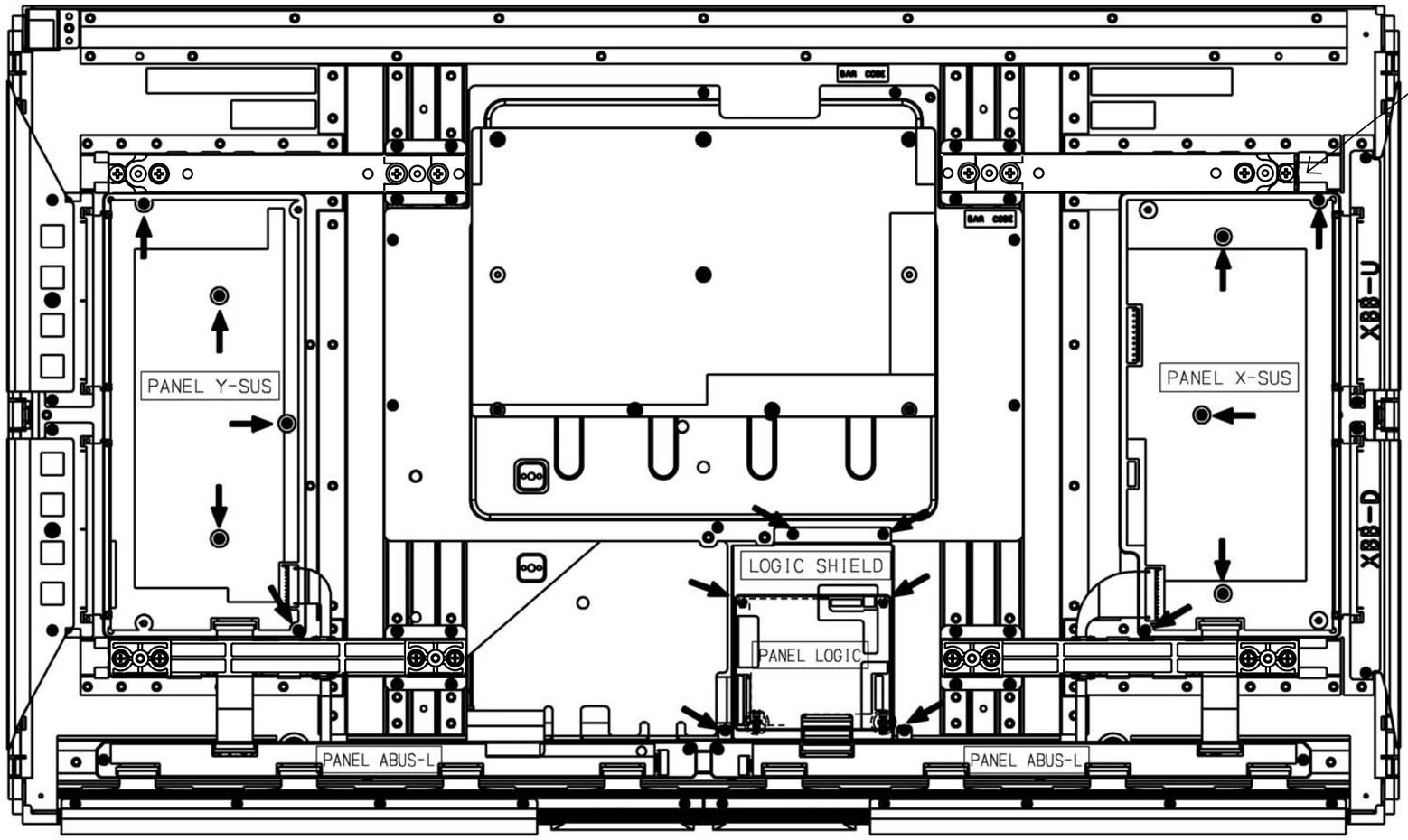
The figure of FHP Panel Module (42V)

(Rear view
The state of a panel simple substance.)



No.	Spare Part Name	FHP Spare Part#
(1)	Panel Module	FPF42C128128UD-55
(2)	LOGIC PWB Ass'y	FPF28R-LGC0045
(3)	X-SUS PWB Ass'y	FPF28R-XSS0026
(4)	Y-SUS PWB Ass'y	FPF28R-YSS0027
(5)	A-BUS L PWB Ass'y	FPF28R-ABL0019
(6)	A-BUS R PWB Ass'y	FPF28R-ABR0020

Panel Module (42V)
[The assembled form in a product (before servicing)]



THE UPDATED PARTS LIST

FOR THIS MODEL IS

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